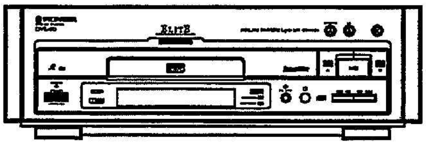
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
RRV1709

DVD LD PLAYER
DVL-90
DVL-700

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power requirement	Remarks
	DVL-90	DVL-700		
KU/CA	○	○	AC120V	

- **For the DVD section, refer to the service guide RRV1710 for DV-500. (The completion is scheduled for about Feb, 1997.)**

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; It is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safety repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safety, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When serving or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ⊞ (fast operating fuse) and/or ⊠ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ⊞ (fusible de type rapide) et/ou ⊠ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

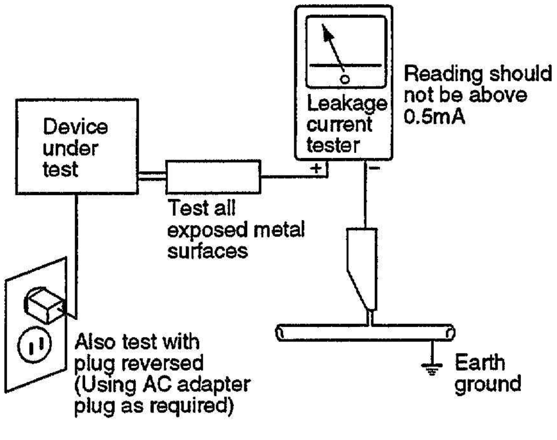
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
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−
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are indentified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

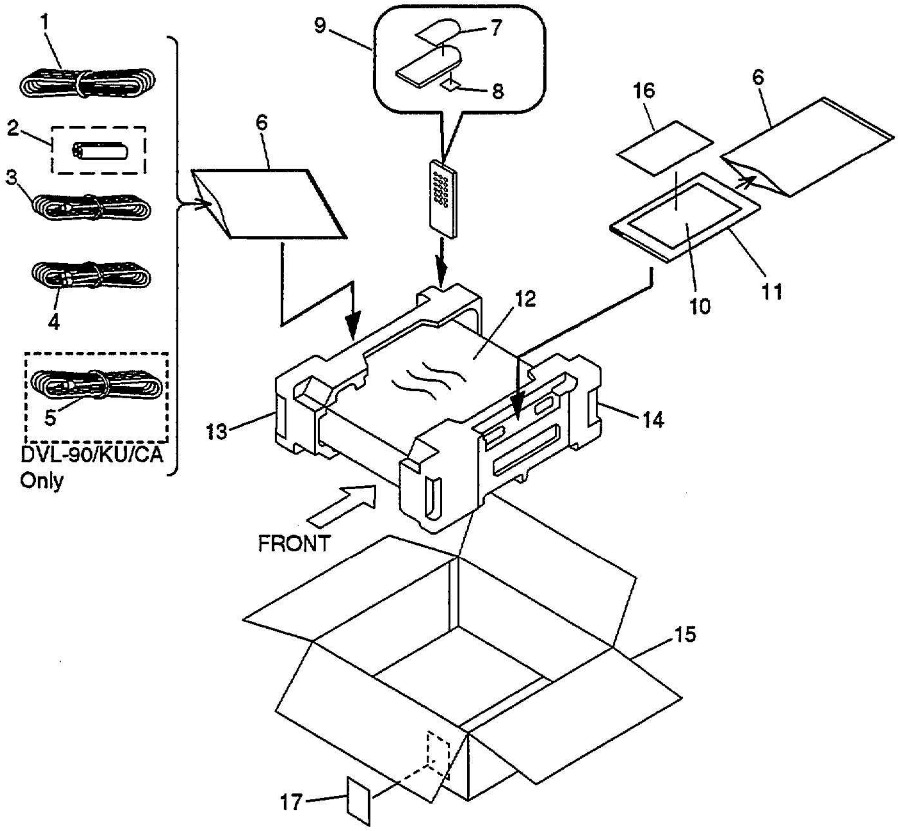
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

"**CAUTION**-Laser radiation when open and interlock defeated. **DO NOT STARE INTO BEAM.**"

2. EXPLODED VIEWS AND PARTS LIST

NOTES : • *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PARTS LIST

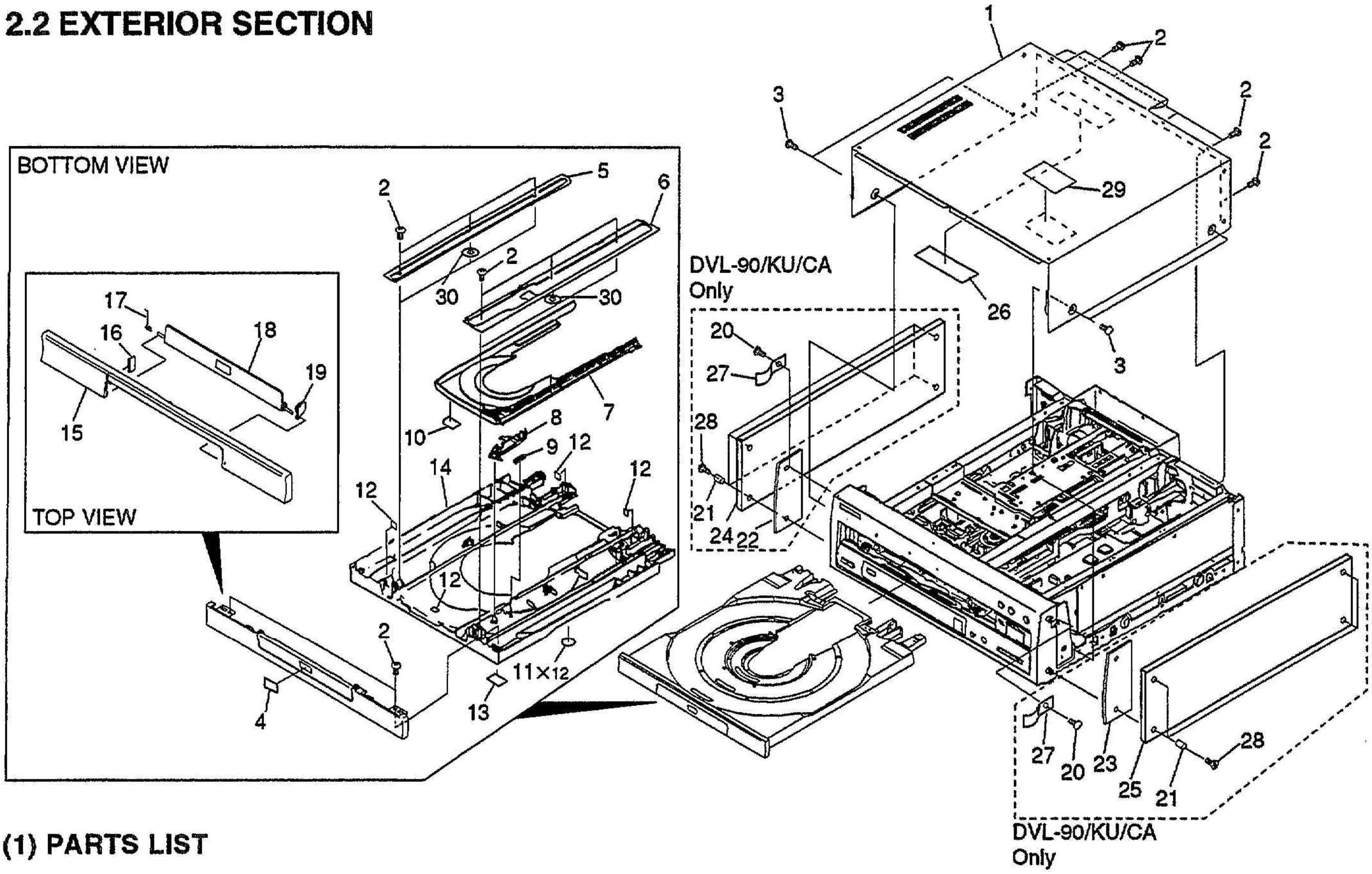
Mark	No.	Description	Part No.
⚠	1	AC POWER CORD	ADG1126
NSP	2	DRY CELL BATTERY(R03,AAA)	VEM-022
	3	VIDEO CORD	See Contrast table (2)
	4	AUDIO CORD	See Contrast table (2)
	5	S VIDEO CABLE	See Contrast table (2)
	6	POLYETHYLENE BAG	Z21-038
	7	UPPER COVER	VNK3940
	8	BATTERY COVER	VNK3864
	9	REMOTE CONTROL UNIT (CU-DV001)	VXX2399
NSP	10	WARRANTY CARD	See Contrast table (2)
	11	OPERATING INSTRUCTIONS	See Contrast table (2)
	12	MIRROR MAT	VHL1018
	13	PAD L	VHA1179
	14	PAD R	VHA1180
	15	PACKING CASE	See Contrast table (2)
	16	CAUTION	VRM1063
NSP	17	LABEL	VRW1629

(2) CONTRAST TABLE

DVL-90/KU/CA and DVL-700/KU/CA have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		Remarks
			DVL-90/KU/CA	DVL-700/KU/CA	
NSP	3	VIDEO CORD	VDE1024	VDE1036	
	4	AUDIO CORD	VDE1023	VDE1033	
	5	S VIDEO CABLE	VDE1013	Not used	
	10	WARRANTY CARD	ARY1026	ARY1044	
	11	OPERATING INSTRUCTIONS (ENGLISH)	VRB1177	VRB1178	
	15	PACKING CASE	VHG1642	VHG1643	

2.2 EXTERIOR SECTION



(1) PARTS LIST

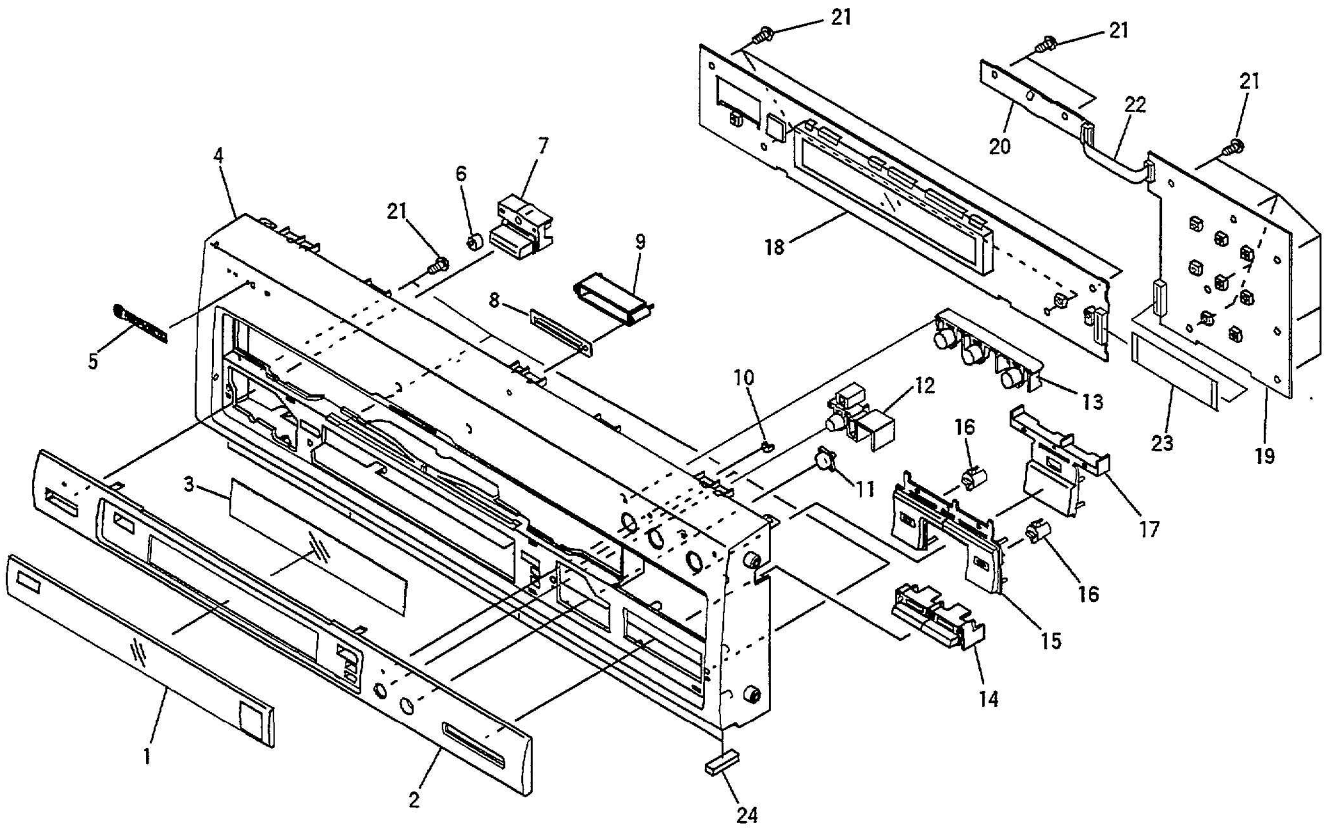
Mark	No.	Description	Part No.
	1	BONNET CASE S	See Contrast table (2)
	2	SCREW	BBZ30P080FMC
	3	SCREW	BCZ40P060FZK
	4	DVD PLATE	VAM1066
	5	GUIDE PLATE (R)	VNE1939
	6	GUIDE PLATE (L)	VNE1938
	7	CD TRAY	See Contrast table (2)
	8	LOCK PLATE	VNL1703
	9	LOCK PLATE SPRING	VBH1188
	10	TRAY LABEL	VRW1628
	11	CUSHION	VEC1682
	12	DAMP CUSHION	VEC1683
NSP	13	CARRY LABEL	VRW1289
	14	LD TRAY ASSY	See Contrast table (2)
	15	TRAY PANEL	See Contrast table (2)
	16	DOOR HOLDER	VEC1904
	17	DOOR SPRING	VBH1248
	18	DVD DOOR ASSY	VXA2305
	19	DAMPER ASSY	VXA1999
	20	SCREW	See Contrast table (2)
	21	WOOD COLLER	See Contrast table (2)
	22	DECORATION PLATE L	See Contrast table (2)
	23	DECORATION PLATE R	See Contrast table (2)
	24	SIDE WOOD L	See Contrast table (2)
	25	SIDE WOOD R	See Contrast table (2)
	26	65 LABEL	ORW1069
	27	EARTH PLATE	See Contrast table (2)
	28	SCREW	See Contrast table (2)
	29	LABEL	VRW1648
	30	WASHER	VEC1254

(2) CONTRAST TABLE

DVL-90/KU/CA and DVL-700/KU/CA have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		Remarks
			DVL-90/KU/CA	DVL-700/KU/CA	
	1	BONNET CASE S	VXX2484	VXX2485	
	7	CD TRAY	VNK3923	VNK3922	
	14	LD TRAY ASSY	VXA2318	VXA2173	
	15	TRAY PANEL	VNK3803	VNK3990	
	20	SCREW	BBZ30P080FMC	Not used	
	21	WOOD COLLER	PNW1238	Not used	
	22	DECORATION PLATE L	VAH1270	Not used	
	23	DECORATION PLATE R	VAH1269	Not used	
	24	SIDE WOOD L	VAP1028	Not used	
	25	SIDE WOOD R	VAP1029	Not used	
	27	EARTH PLATE	VNE1518	Not used	
	28	SCREW	IBZ40P200FZK	Not used	

2.3 FRONT PANEL SECTION



(1) PARTS LIST

Mark	No.	Description	Part No.
	1	FL LENS	VNK3599
	2	SUB PANEL	See Contrast table (2)
	3	FL FILTER	VEC1890
	4	FRONT PANEL	See Contrast table (2)
	5	NAME PLATE	See Contrast table (2)
	6	LED LENS	PNW2019
	7	POWER BUTTON	VNK3689
	8	ILLUMINATION LENS	VNK3652
	9	LED HOLDER	VNK4001
	10	LED LENS 1	RNK2066

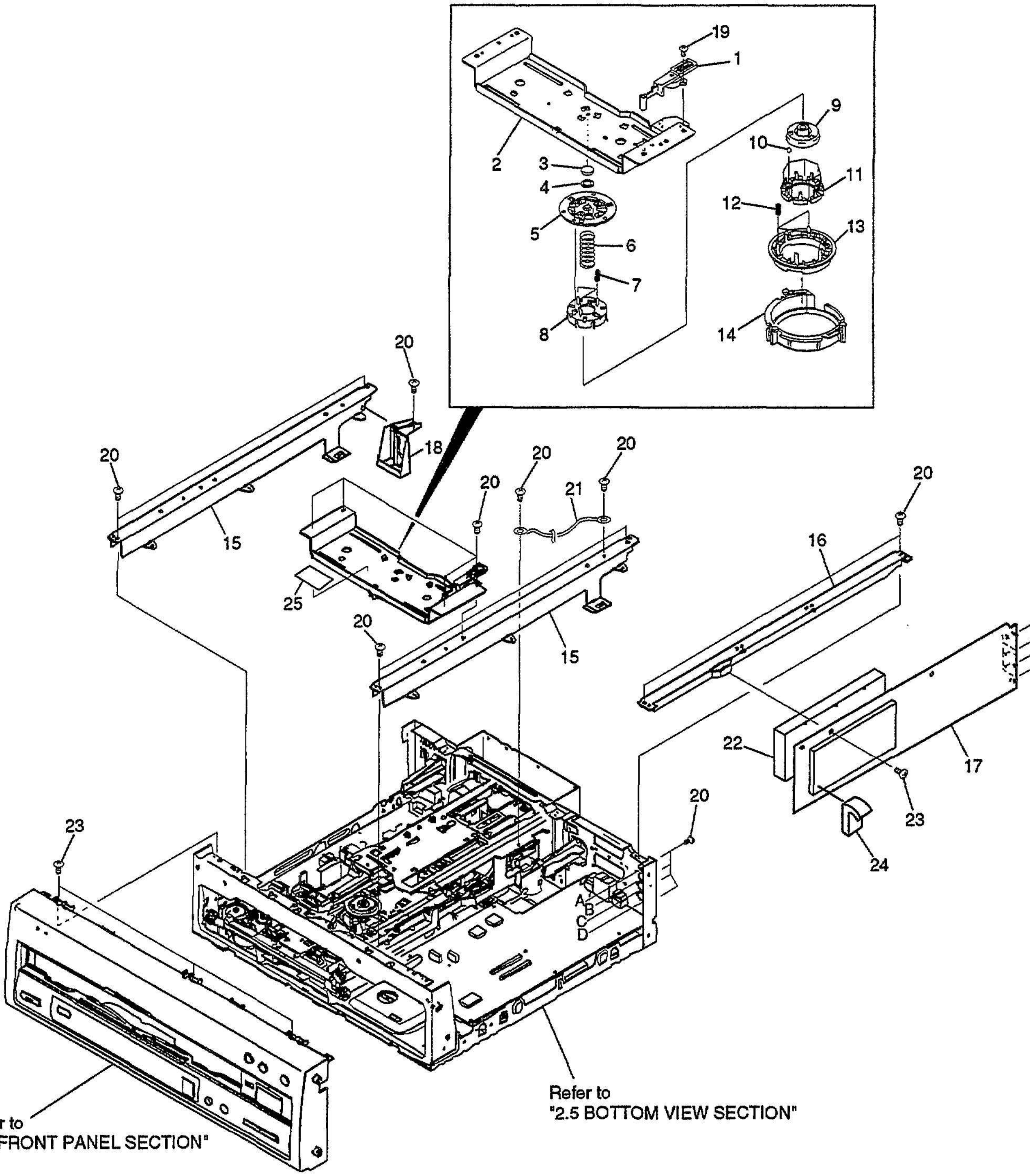
Mark	No.	Description	Part No.
	11	IR WINDOW	VNK2246
	12	DISPLAY BUTTON	VNK3694
	13	OPEN BUTTON	VNK3690
	14	SKIP BUTTON	See Contrast table (2)
	15	SIDE BUTTON	See Contrast table (2)
	16	SIDE LENS	VNK3602
	17	PLAY BUTTON	See Contrast table (2)
	18	FLPB ASSY	See Contrast table (2)
	19	KEYB ASSY	VWG1736
	20	LEDB ASSY	VWG1832
	21	SCREW	BBZ30P080FMC
	22	FLEXIBLE CABLE (5P)	VDA1590
	23	FLEXIBLE CABLE (19P)	VDA1603
NSP	24	SPACER A	VEC1933

(2) CONTRAST TABLE

DVL-90/KU/CA and DVL-700/KU/CA have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		Remarks
			DVL-90/KU/CA	DVL-700/KU/CA	
	2	SUB PANEL	VNK3685	VNK3805	
	4	FRONT PANEL	VNK4028	VNK4029	
	5	NAME PLATE	VAM1032	PAM1704	
	14	SKIP BUTTON	VNK3807	VNK3693	
	15	SIDE BUTTON	VNK3808	VNK3925	
	17	PLAY BUTTON	VNK3806	VNK3924	
	18	FLPB ASSY	VWG1801	VWG1800	

2.4 TOP VIEW SECTION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Refer to
"2.5 BOTTOM VIEW SECTION"

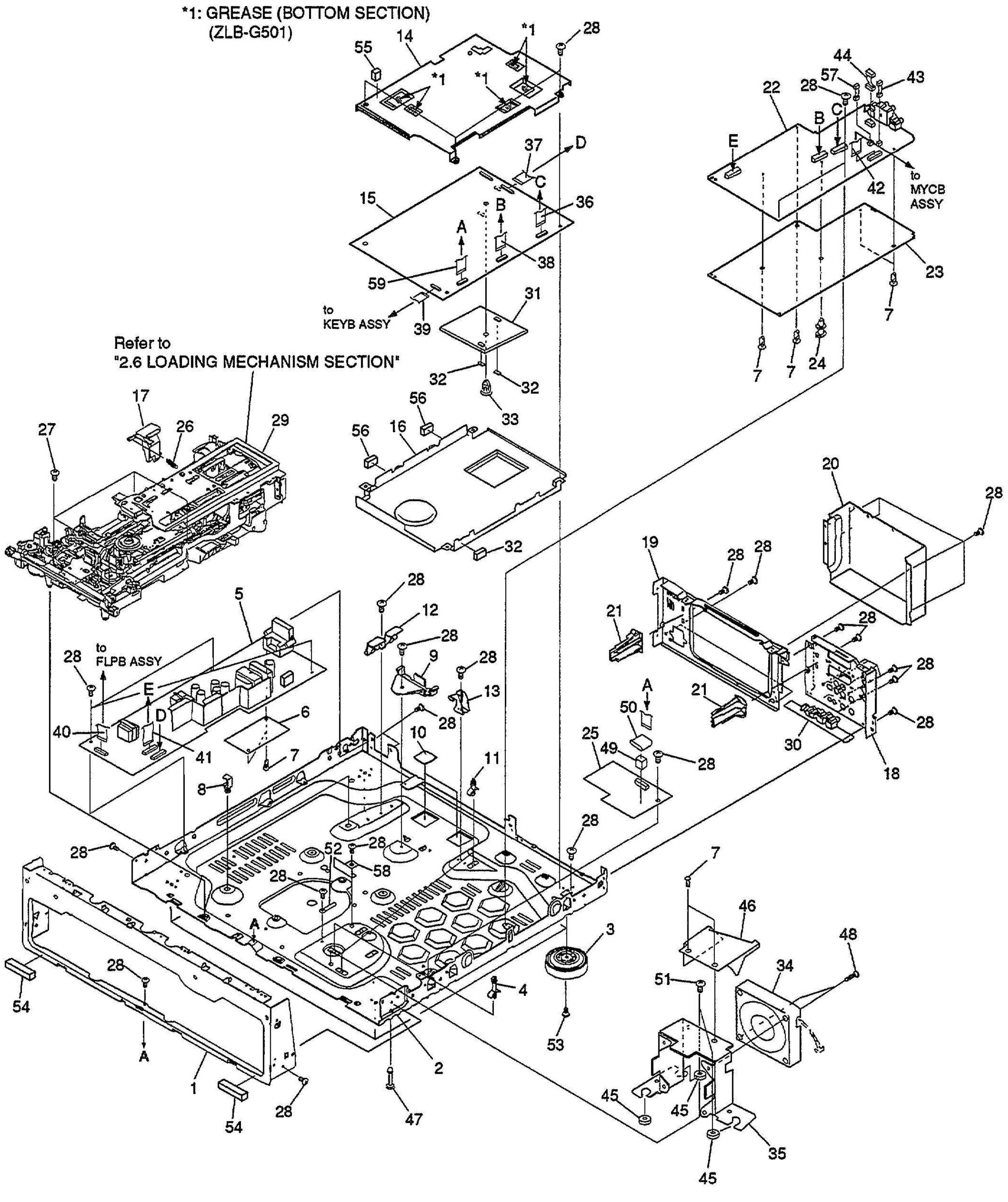
Refer to
"2.3 FRONT PANEL SECTION"

Parts List

Mark	No.	Description	Part No.
	1	D LEVER ASSY	VXA2205
	2	CENTER PLATE	VNE2051
	3	RUBBER SHEET	VEB1114
	4	THRUST HOLDER	VNL1663
	5	CLAMPER HEAD	VNL1603
	6	LD SPRING	VBH1240
	7	COVER SPRING	VBH1234
	8	BALL COVER	VNL1602
	9	LD HAB	VNT1047
	10	STEEL BALL	VNX1013

Mark	No.	Description	Part No.
	11	BALL GUIDE	VNL1616
	12	CLAMP SPRING	VBH1239
	13	CLAMPER	VNL1604
	14	CLAMPER HOLDER	VNL1708
NSP	15	CENTER ANGLE	VNE2048
NSP	16	PCB HOLDER	VNE2049
	17	MYCB ASSY	VWV1519
	18	SHIPPING CAM	VNL1729
	19	SCREW	PBZ20P060FMC
	20	SCREW	BBZ30P080FMC
NSP	21	WIRE	DE007VF0
	22	SHIELD CASE B	VNF1099
	23	SCREW	IBZ30P080FMC
	24	CUSHION	VEC1925
	25	FUSE CAUTION LABEL	VRW1642

2.5 BOTTOM VIEW SECTION



*1: GREASE (BOTTOM SECTION)
(ZLB-G501)

Refer to
"2.6 LOADING MECHANISM SECTION"

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(1) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	PANEL HOLDER	VNA1686
NSP	2	CHASSIS	See Contrast table (2)
	3	INSULATOR	See Contrast table (2)
NSP	4	SPACER 40	PNW2488
⚠	5	POWER SUPPLY ASSY	VWR1273
	6	SHEET P	VEC1874
	7	RIVET	RBM-003
	8	PCB HINGE	VEC1174
NSP	9	STOPPER	VNE2088
NSP	10	RUBBER SPACER	VEB1252
NSP	11	PCB SPACER	AEC1188
NSP	12	CAM HOLDER L	VNE2089
NSP	13	CAM HOLDER R	VNE2090
	14	SHIELD CASE (UPPER)	VNF1093
	15	DVD MAIN ASSY	VWS1243
	16	SHIELD CASE (LOWER)	VNF1094
	17	SHIPPING LEVER	VNL1728
	18	REAR PANEL L	See Contrast table (2)
	19	REAR PANEL R	See Contrast table (2)
	20	REAR COVER	See Contrast table (2)
	21	TRAY STOPPER	VNL1707
	22	CLD MAIN ASSY	VWS1285
	23	SHEET C	VEC1875
NSP	24	PCB SPACER	AEC1372
	25	MCRB ASSY	VWV1544
	26	SHIPPING SPRING	VBH1275
	27	SCREW	BBZ30P100FMC
	28	SCREW	BBZ30P080FMC
NSP	29	MECHANISM ASSY	VWT1132
	30	JCKB ASSY	VWV1532

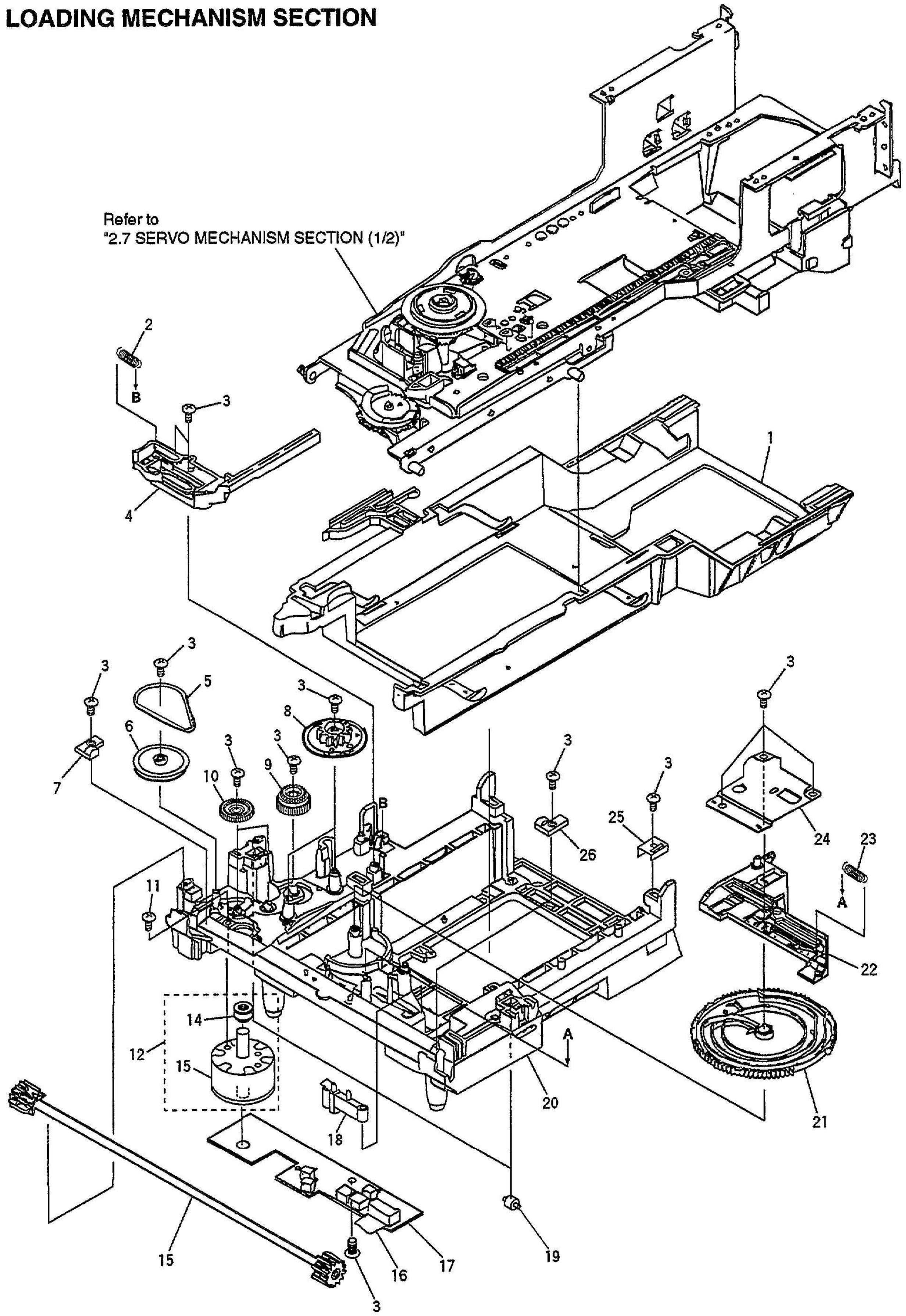
Mark	No.	Description	Part No.
	31	FTSB ASSY	VWS1291
NSP	32	SPACER A	VEC1933
	33	PCB HOLDER	AEC1534
	34	DC FAN MOTOR	VXM1070
	35	FAN HOLDER	VNE2108
	36	FLEXIBLE CABLE (26P)	VDA1587
	37	FLEXIBLE CABLE (24P)	VDA1588
	38	FLEXIBLE CABLE (30P)	VDA1586
	39	FLEXIBLE CABLE (13P)	VDA1589
	40	FLEXIBLE CABLE (5P)	VDA1572
	41	FLEXIBLE CABLE (15P)	VDA1582
	42	FLEXIBLE CABLE (10P)	VDA1584
	43	HOUSING ASSY (2P)	VKP2138
	44	HOUSING ASSY (8P)	VKP2139
	45	RUBBER BUSH	VEB1164
NSP	46	FAN COVER	VEC1921
NSP	47	LOCKING CARD SPACER	VEC1596
	48	SCREW	IBZ30P150FMC
NSP	49	SPACER B	VEC1934
⚠	50	FERRITE CORE	VTH1038
	51	SCREW	VBA1029
NSP	52	CORD HOLDER	ZCB-069Z
	53	SCREW	See Contrast table (2)
NSP	54	CUSHION	VEC1923
NSP	55	SPACER C	VEC1935
	56	CUSHION	VEC1924
	57	HOUSING ASSY (2P)	VKP2142
NSP	58	PCB ANGLE	VNE2110
	59	FLEXIBLE CABLE (26P)	VDA1621

(2) CONTRAST TABLE

DVL-90/KU/CA and DVL-700/KU/CA have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		Remarks
			DVL-90/KU/CA	DVL-700/KU/CA	
NSP	2	CHASSIS	VNA1852	VNA1851	
	3	INSULATOR	VXA1450	PNW1912	
	18	REAR PANEL L	VNA1718	VNA1807	
	19	REAR PANEL R	VNA1719	VNA1684	
	20	REAR COVER	VNA1720	VNA1810	
	53	SCREW	IBZ30P150FMC	BBZ30P080FMC	

2.6 LOADING MECHANISM SECTION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"2.7 SERVO MECHANISM SECTION (1/2)"
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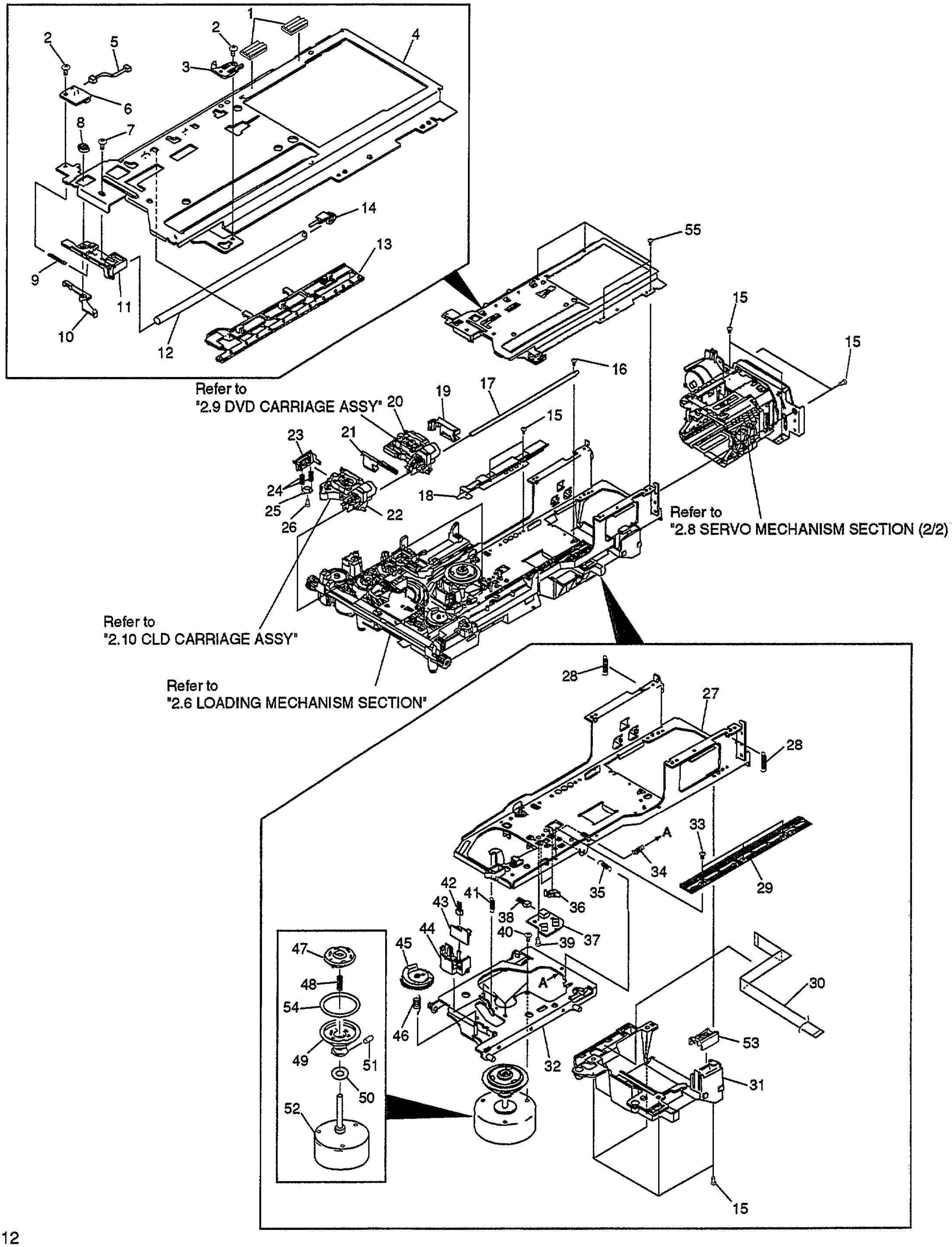
Parts List

Mark	No.	Description	Part No.
	1	CLAMP CAM B	VNL1765
	2	CDP SPRING	VBH1191
	3	SCREW	Z39-019
	4	CD PLATE	VNL1685
	5	RUBBER BELT	VEB1184
	6	GEAR PULLEY	VNL1662
	7	SLIDER(L)	VNL1665
	8	TWIN GEAR	VNL1626
	9	CENTER GEAR	VNL1660
	10	DOUBLE GEAR	VNL1661
	11	SCREW	BMZ26P040FMC
	12	LOADING MOTOR ASSY	VXX2045
	13	CARRIAGE MOTOR	VXM1033
NSP	14	MOTOR PULLEY	VNL1630
	15	SYNCHRO GEAR ASSY	VXA2105
	16	FLEXIBLE CABLE (10P)	VDA1579
NSP	17	LMSB ASSY	VWG1554
	18	MB SWITCH LEVER	VNL1664
	19	ROLLER	VNL1042
	20	MECHANISM BASE	VNK3239
	21	CAM GEAR	VNL1625
	22	CAM PLATE	VNL1631
	23	CAS SPRING	VBH1190
	24	SHAFT HOLDER	VNE1942
	25	CAM HOLDER	VNE2032
	26	SLIDER(R)	VNL1666

2.7 SERVO MECHANISM SECTION (1/2)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"2.9 DVD CARRIAGE ASSY"
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Refer to
"2.8 SERVO MECHANISM SECTION (2/2)"
Refer to
"2.10 CLD CARRIAGE ASSY"
Refer to
"2.6 LOADING MECHANISM SECTION"
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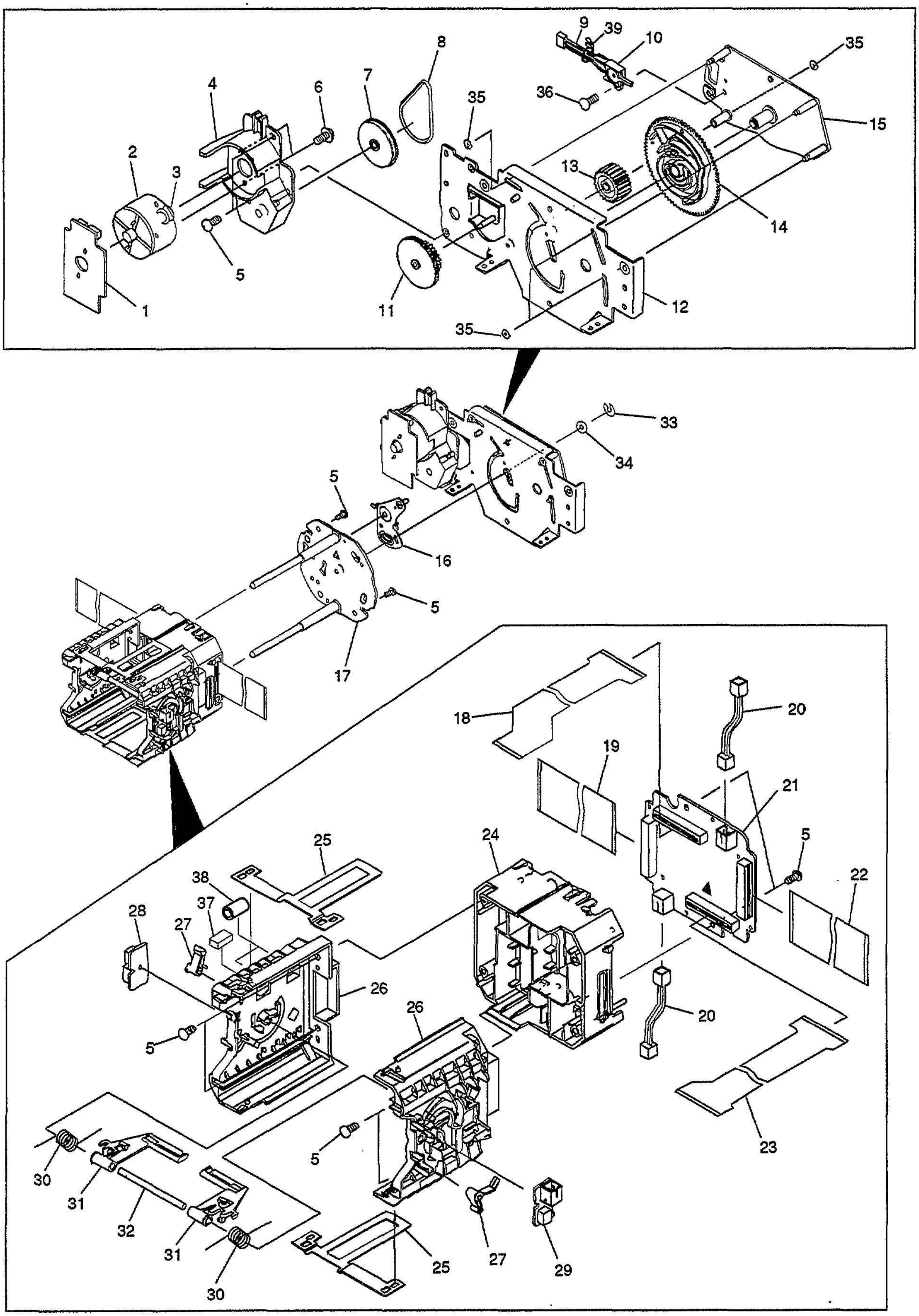
Parts List

Mark	No.	Description	Part No.
	1	MINI CLAMP	VEC1905
	2	SCREW	BBZ26P060FMC
	3	A HORN	VNL1689
	4	TILT BASE(UPPER)	VNE2062
	5	HOUSING ASSY (2P)	VKP2136
NSP	6	BISB ASSY	VWG1796
	7	SCREW	BPZ20P040FZK
	8	B CAM	VNL1725
	9	SUPPORT SPRING	VBH1273
	10	SW LEVER B	VNL1723
	11	SHAFT HOLDER	VNL1724
	12	CA SHAFT(UPPER)	VLL1486
	13	CA RACK(UPPER)	VNL1722
	14	SHAFT STAY	VNL1726
	15	SCREW	BBZ30P080FMC
	16	SCREW	PPZ20P060FMC
	17	CA SHAFT(LOWER)	VLL1485
	18	TAN GUIDE	VNE2061
	19	FPC HOLDER A	VNL1751
	20	DVD CARRIAGE ASSY	VWT1139
	21	FPC HOLDER B	VNL1752
	22	CLD CARRIAGE ASSY	VWT1141
	23	CA GUIDE	VNL1668
	24	TAN SPRING (B)	VBH1264
	25	TAN LEVER(B)	VNL1669
	26	SCREW	PMZ20P060FZK
	27	TILT BASE(UNDER)	VNL1711
	28	TILT REAR SPRING	VBH1274
	29	CA RACK (LOWER)	VNL1712
	30	FLEXIBLE CABLE (6P)	VDA1578
	31	FLEXIBLE CABLE COVER	VNL1727
	32	MOTOR BASE	VNE1941
	33	•••••	
	34	TILT SPRING	VBH1263
	35	THRUST SPRING	VBH1245
	36	CA SWITCH LEVER	VNL1644
NSP	37	PKSB ASSY	VWG1555
	38	HOUSING ASSY (3P)	VKP2045
	39	SCREW	IBZ26P120FMC
	40	SCREW	PMA30P050FMC
	41	TILT SPRING B	VBH1287
	42	HOUSING ASSY (3P)	VKP2046
NSP	43	FG ASSY	VWG1556
	44	FG BASE	VNL1781
	45	TILT CAM	VNL1643
	46	TILT CAM SPRING	VBH1243
	47	PRC HUB	VNL1684
	48	CENTERING SPRING	VBH1269
	49	R-TURN TABLE ASSY	VXA2284
NSP	50	OIL STOPPER	VBF1002
	51	SCREW	ZMD30H030FBT
NSP	52	SPINDLE MOTOR	VXM1057
	53	COVER S	VNL1780
NSP	54	RUBBER SHEET	VEB1272
	55	SCREW	BBZ30P050FZK

2.8 SERVO MECHANISM SECTION (2/2)


9
39
10
8
35
4
7
6
36
35
15
2
3
13
14
5
1
11
12
35
33
34
5
16
5
17
20
18
19
21
5
25
24
22
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37
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27
26
26
20
5
23
5
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31
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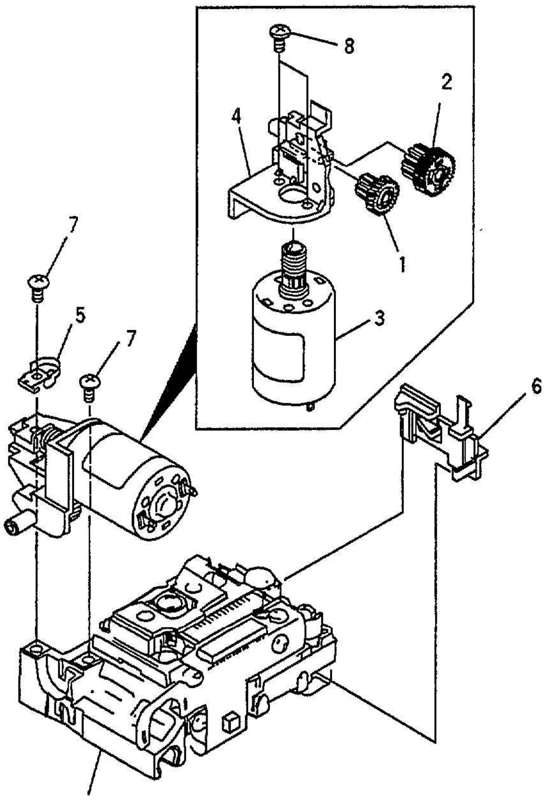
25
27
29

Parts List

Mark	No.	Description	Part No.
NSP	1	TNMB ASSY	VWG1793
	2	CARRIAGE MOTOR	VXM1033
NSP	3	MOTOR PULLEY	VNL1630
	4	MOTOR HOLDER	VNL1717
	5	SCREW	BBZ30P080FMC
	6	SCREW	BMZ26P040FMC
	7	GEAR PULLEY	VNL1662
	8	RUBBER BELT	VEB1184
	9	HOUSING ASSY (3P)	VKP2137
	10	LEVER SWITCH	DSK1003
	11	MIDDLE GEAR	VNL1720
	12	TURN PANEL ASSY	VXA2337
	13	GEAR S	VNL1719
	14	TURN CAM GEAR	VNL1718
	15	SWING PLATE ASSY	VXA2289
	16	TURN LEVER ASSY	VXA2292
	17	TURN PLATE ASSY	VXA2290
	18	PU FPC-B	VNP1583
	19	FLEXIBLE CABLE (26P)	VDA1580
	20	CONNECTOR ASSY	PG02KK-E10
NSP	21	CNNB ASSY	VWG1792
	22	FLEXIBLE CABLE (27P)	VDA1581
	23	PU FPC-A	VNP1582
	24	PCB HOLDER	VNL1716
	25	FC GUIDE	VNE2059
	26	PU HOLDER	VNL1715
	27	SW LEVER C	VNL1714
NSP	28	LCSB ASSY	VWG1795
NSP	29	DCSB ASSY	VWG1794
	30	FC ARM SPRING	VBH1272
	31	FC ARM	VNL1713
	32	TILT SHAFT	VLL1175
	33	E RING	YE30FUC
	34	WASHER	WA42D080D050
	35	WASHER	WT26D070D050
	36	SCREW	PMA26P060FMC
	37	CUSHION	VEC1917
	38	TUBE	VEB1273
	39	BINDER	Z09-056

2.9 DVD CARRIAGE ASSY

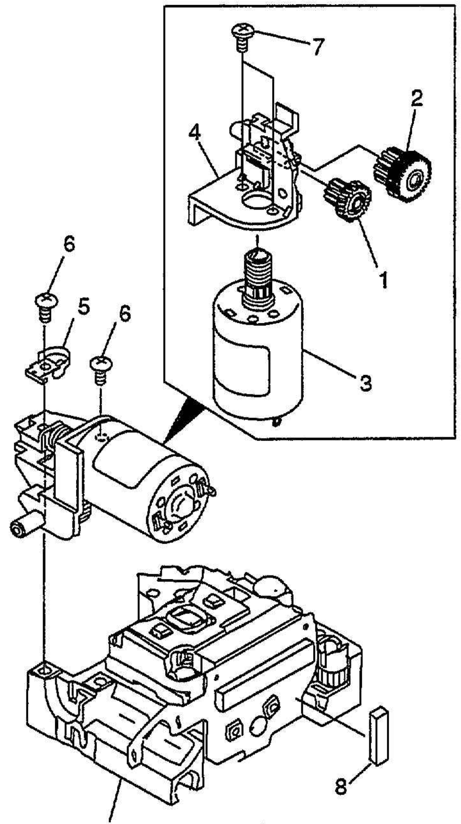


This part is no service part.

Parts List

Mark	No.	Description	Part No.
	1	CA GEAR(A)	VNL1782
	2	CA GEAR B ASSY	VXX2471
	3	SLIDER MOTOR ASSY	VXX2472
	4	MOTOR HOLDER	VNL1779
	5	THRUST HOLDER	VBK1058
	6	CA GUIDE B	VNL1721
	7	SCREW	BBZ20P050FZK
	8	SCREW	PMZ20P030FMC

2.10 CLD CARRIAGE ASSY



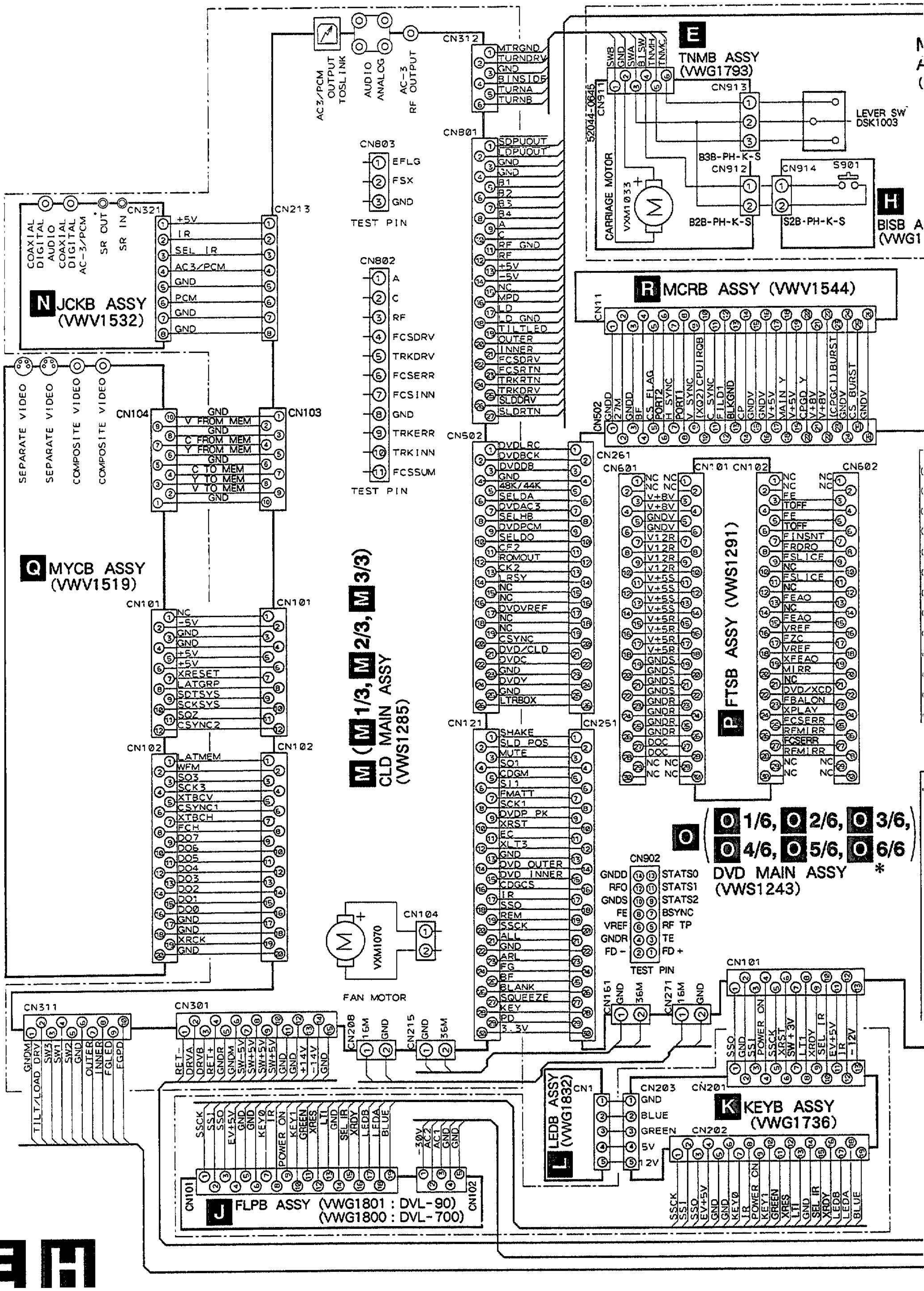
This part is no service part.

Parts List

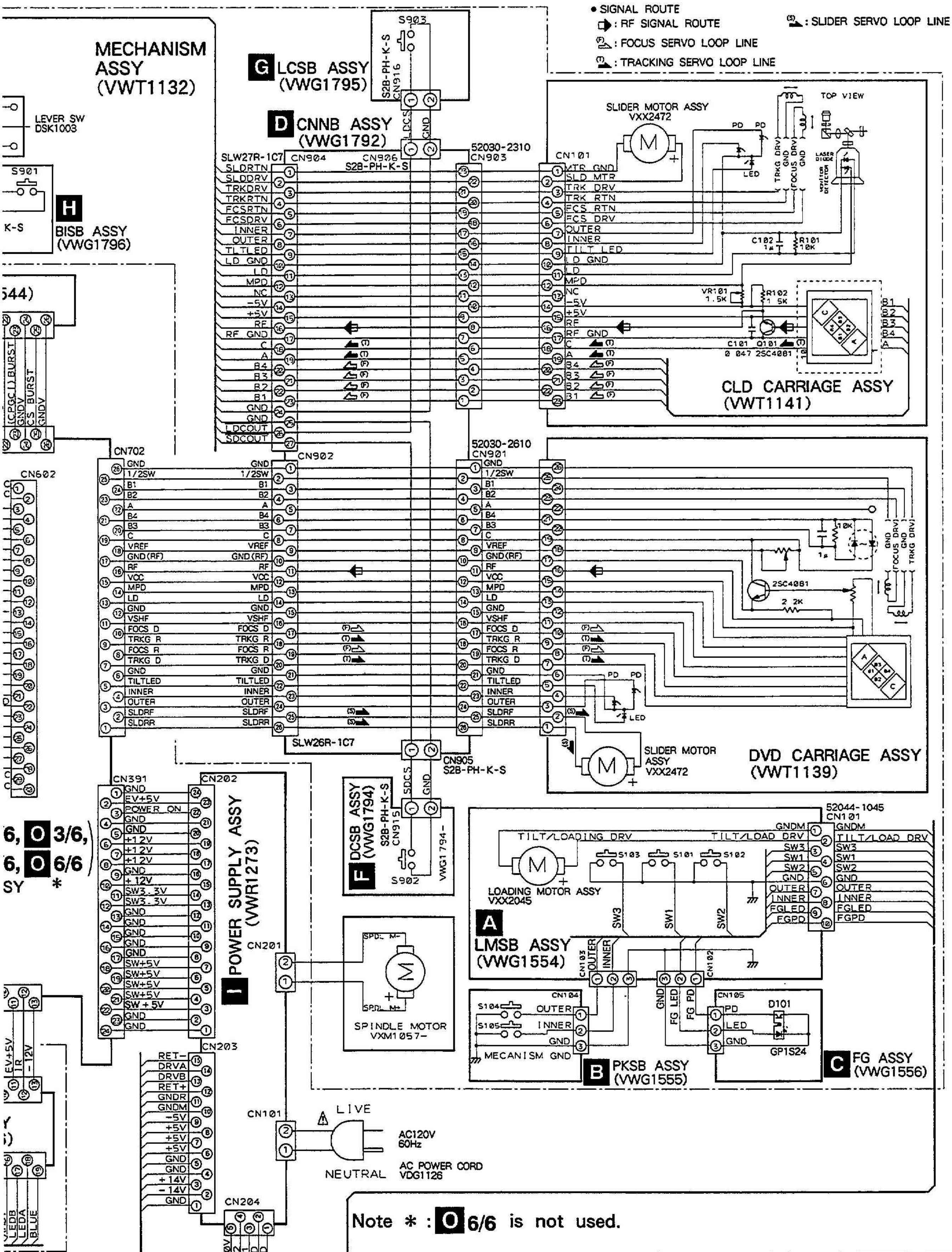
Mark	No.	Description	Part No.
	1	CA GEAR(A)	VNL1782
	2	CA GEAR(B)	VNL1639
	3	SLIDER MOTOR ASSY	VXX2472
	4	MOTOR HOLDER	VNL1779
	5	THRUST HOLDER	VBK1058
	6	SCREW	PBZ20P050FMC
	7	SCREW	PMZ20P030FMC
	8	CUSHION B	VEC1931

3. SCHEMATIC DIAGRAM

3.1 OVERALL WIRING DIAGRAM, LMSB, PKSB, FG, CNNB, TNMB, DCSB, LCSB AND BISB ASSEMBLIES


AC3/PCM OUTPUT TOSLINK
AUDIO ANALOG
AC-3 RF OUTPUT
CN312
MTRGND
TURNDRV
GND
BINSIDE
TURNA
TURNB
E TNMB ASSY (VWG1793)
SWB GND SWA BISW TNMH TNMC
CN911
52044-0645
CN913
LEVER SW DSK1003
B3B-PH-K-S
CN912
CN914
S901
CARRIAGE MOTOR
VXM1033
B2B-PH-K-S
S2B-PH-K-S
H BISB ASSY
CN801
SDPUOUT
LDPUOUT
GND
B1
B2
B3
B4
A
C
RF GND
RF
+5V
-5V
NC
MPD
LD
LD GND
TILTLED
OUTER
INNER
FCSDRV
FCSRTN
TRKRTN
TRKDRV
SLDDRV
SLDRTN
CN803
EFLG
FSX
GND
TEST PIN
CN802
A
C
RF
FCSDRV
TRKDRV
FCSERR
FCSINN
GND
TRKERR
TRKINN
FCSSUM
TEST PIN
COAXIAL DIGITAL AUDIO
COAXIAL DIGITAL AC-3/PCM
SR OUT
SR IN
CN321
CN213
+5V
IR
SEL IR
AC3/PCM
GND
PCM
GND
GND
N JCKB ASSY (VWV1532)
R MCRB ASSY (VWV1544)
CN11
CN502
GNDD 27M GNDD BF CS FLAG PORT2 H SYNC PORT1 V SYNC (XQ2)CPUIRQB C SYNC FILD1 BLKGND CP GNDV GNDV V+5V MAIN Y V+5V CPGD Y V+8V (CPGC1)BURST GNDV CS BURST GNDV
SEPARATE VIDEO
SEPARATE VIDEO
COMPOSITE VIDEO
COMPOSITE VIDEO
CN104
CN103
GND
V FROM MEM
GND
C FROM MEM
Y FROM MEM
GND
C TO MEM
Y TO MEM
V TO MEM
GND
Q MYCB ASSY (VWV1519)
CN101
NC
-5V
GND
GND
+5V
+5V
XRESET
LATGRP
SDTSYS
SCKSYS
SQZ
CSYNC2
CN102
LATMEM
WFM
SO3
SCK3
XTBCV
CSYNC1
XTBCH
FCH
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DO0
GND
GND
XRCK
GND
M (M 1/3, M 2/3, M 3/3) CLD MAIN ASSY (VWS1285)
CN502
DVDLRC
DVDBCK
DVDDB
GND
48K/44K
SELDA
DVDAC3
SELHB
DVDPCM
SELDO
CF2
ROMOUT
CK2
LRSY
NC
NC
DVDVREF
NC
NC
CSYNC
DVD/CLD
DVDC
GND
DVDY
GND
LTRBOX
CN261
CN601
NC NC
V+8V
V+8V
GNDV
GNDV
V12R
V12R
V12R
V12R
V+5S
V+5S
V+5S
V+5S
V+5R
V+5R
V+5R
V+5R
GNDS
GNDS
GNDS
GNDS
GNDR
GNDR
GNDR
GNDR
DOC
DOC
NC NC
NC NC
CN101 CN102
P FTSB ASSY (VWS1291)
CN602
NC NC
NC NC
FE
TOFF
FE
TOFF
FINSNT
FRDRO
FSLICE
NC
FSLICE
NC
FEAO
NC
FEAO
VREF
FZC
VREF
XFEAO
MIRR
NC
DVD/XCD
FBALON
XPLAY
FCSERR
RFMIRR
FCSERR
RFMIRR
NC NC
NC NC
CN121
CN251
SHAKE
SLD POS
MUTE
SO1
CDGM
SI1
FMATT
SCK1
DVDP PK
XRST
EC
XLT3
GND
DVD OUTER
DVD INNER
CDGCS
IR
SSO
REM
SSCK
ALL
GND
ARL
FG
BF
BLANK
SQUEEZE
KEY
PD
3.3V
O (O 1/6, O 2/6, O 3/6, O 4/6, O 5/6, O 6/6) DVD MAIN ASSY (VWS1243) *
CN902
GNDD STATS0
RFO STATS1
GNDS STATS2
FE BSYNC
VREF RF TP
GNDR TE
FD - FD +
TEST PIN
VXM1070
CN104
FAN MOTOR
CN311
GNDM TILT/LOAD DRV SW3 SW1 SW2 GND OUTER INNER FGLED FGPD
CN301
RET- DRVA DRVB RET+ GNDR GNDM SW-5V SW+5V SW+5V SW+5V GND GND +14V -14V GND
CN208 16M GND
CN215 GND 36M
CN161 GND 36M
CN271 16M GND
CN101
SSO GND SSI POWER ON SSCK SW+3V LT1 XRDY GND EV+5V SEL IR IR -12V
L LEDB ASSY (VWG1832)
CN1
CN203
GND
BLUE
GREEN
5V
12V
CN201
K KEYB ASSY (VWG1736)
CN202
SSCK SSI SSO EV+5V GND GND KEY0 IR POWER ON KEY1 GREEN XRES LTI GND SEL IR XRDY LEDA BLUE
SSCK SSI SSO EV+5V GND GND KEY0 IR POWER ON KEY1 GREEN XRES LTI GND SEL IR XRDY LEDB LEDA BLUE
-30V AC2 AC1 GND GND
CN101
J FLPB ASSY (VWG1801 : DVL-90) (VWG1800 : DVL-700)
CN102

Note : When ordering service parts, be sure to refer to
"EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST"


● SIGNAL ROUTE
: RF SIGNAL ROUTE
: FOCUS SERVO LOOP LINE
: TRACKING SERVO LOOP LINE
: SLIDER SERVO LOOP LINE
MECHANISM ASSY (VWT1132)
LEVER SW DSK1003
S901
H BISB ASSY (VWG1796)
G LCSB ASSY (VWG1795)
S903
S2B-PH-K-S CN916
D CNNB ASSY (VWG1792)
LDCS
GND
SLW27R-1C7 CN904
CN906 S2B-PH-K-S
52030-2310 CN903
CN101
SLDRTN
SLDDRV
TRKDRV
TRKRTN
FCSRTN
FCSDRV
INNER
OUTER
TLTLED
LD GND
LD
MPD
NC
-5V
+5V
RF
RF GND
C
A
B4
B3
B2
B1
GND
LDCOUT
SDCOUT
MTR GND
SLD MTR
TRK DRV
TRK RTN
FCS RTN
FCS DRV
TILT LED
SLIDER MOTOR ASSY VXX2472
PD
LED
TRKG DRV
FOCUS
TOP VIEW
C102 1μ
R101 10K
VR101 1.5K
R102 1.5K
C101 0.047
Q101 2SC4081
CLD CARRIAGE ASSY (VWT1141)
CN702
CN902
52030-2610 CN901
1/2SW
VREF
GND(RF)
VCC
VSHF
FOCS D
TRKG R
FOCS R
TRKG D
TILTLED
SLDRF
SLDRR
SLW26R-1C7
CN905 S2B-PH-K-S
2SC4081
2.2K
10K
DVD CARRIAGE ASSY (VWT1139)
SLIDER MOTOR ASSY VXX2472
CN602
CN391
CN202
EV+5V
POWER ON
+12V
SW3.3V
SW+5V
6, O 3/6,
6, O 6/6
SY *
I POWER SUPPLY ASSY (VWR1273)
F DCSB ASSY (VWG1794)
SDCS
S2B-PH-K-S CN915
S902
VWG1794-
CN201
SPDL M-
SPDL M+
SPINDLE MOTOR VXM1057-
CN203
RET-
DRVA
DRVB
RET+
GNDR
GNDM
+14V
-14V
CN101
LIVE
NEUTRAL
AC120V 60Hz
AC POWER CORD VDG1126
CN204
-30V
AC2
AC1
EV+5V
IR
-12V
LEDB
LEDA
BLUE
52044-1045 CN101
TILT/LOADING DRV
TILT/LOAD DRV
GNDM
SW3
SW1
SW2
FGLED
FGPD
S103
S101
S102
LOADING MOTOR ASSY VXX2045
A LMSB ASSY (VWG1554)
CN103
CN102
CN104
S104
S105
MECANISM GND
B PKSB ASSY (VWG1555)
FG LED
FG PD
CN105
D101
GP1S24
C FG ASSY (VWG1556)

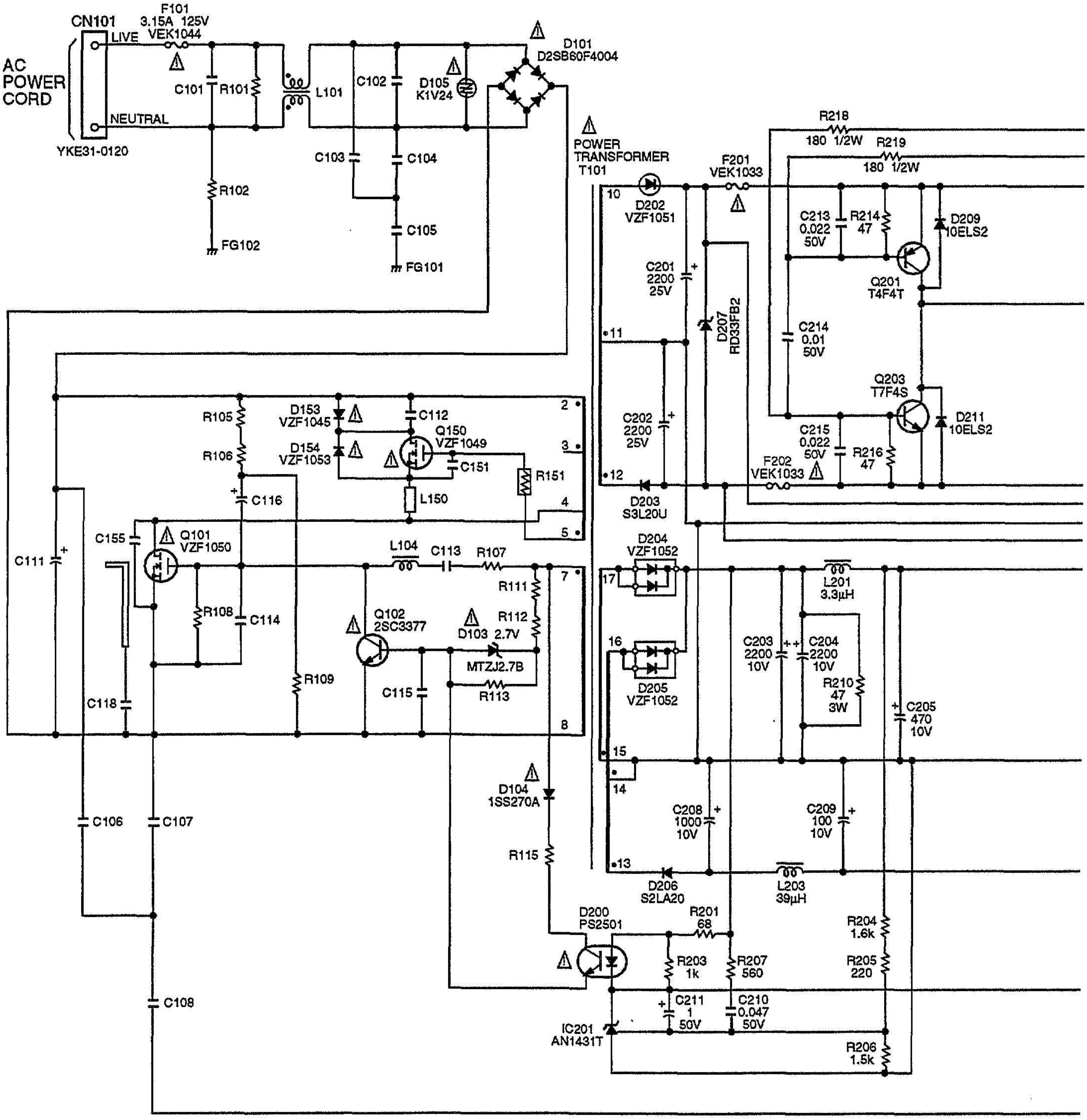
Note * : O 6/6 is not used.

3.2 POWER SUPPLY ASSY

• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE AND RATINGS ONLY.

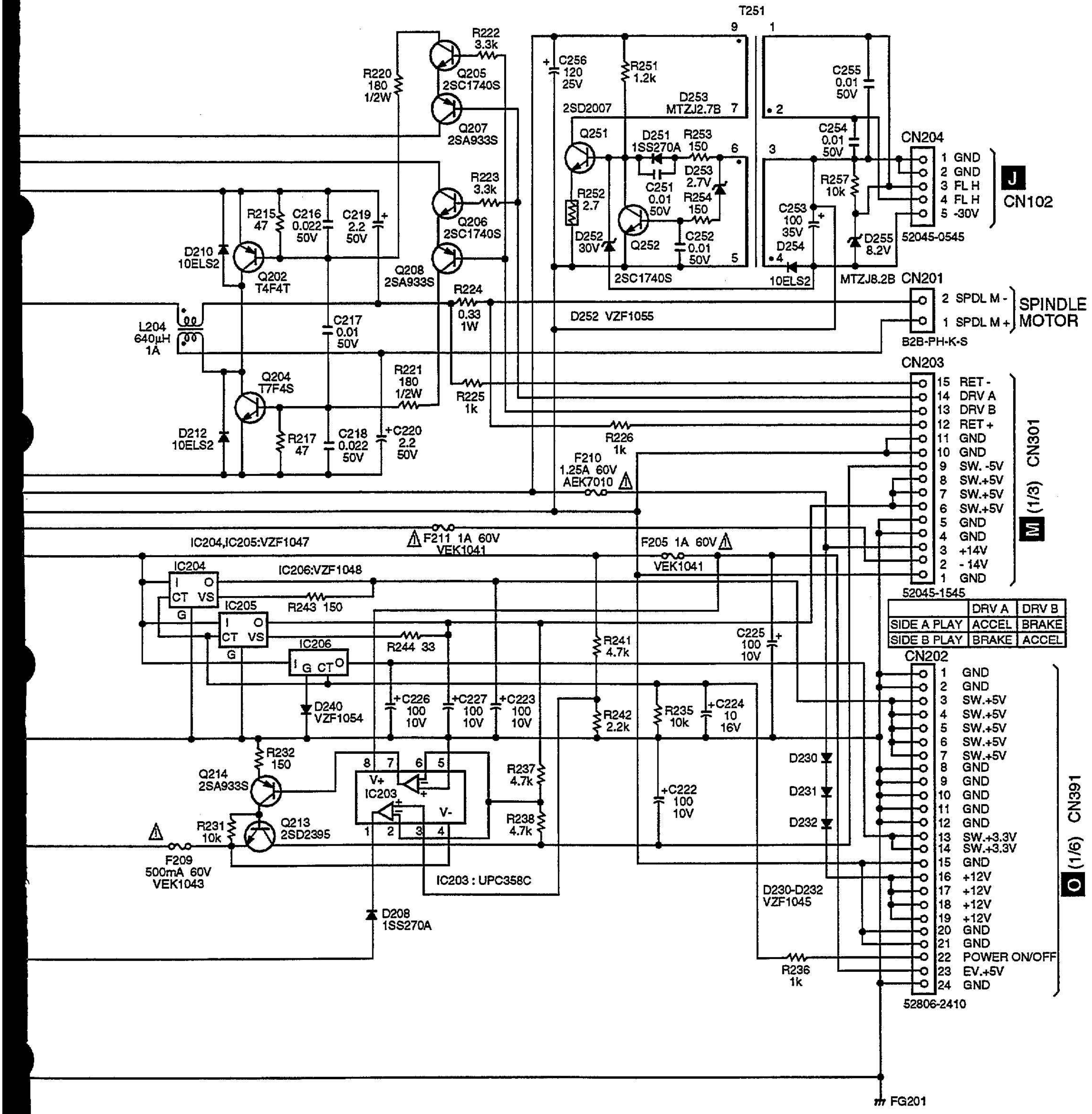
⚠ **I** POWER SUPPLY ASSY (VWR1273)


CN101
F101
3.15A 125V
VEK1044
LIVE
AC POWER CORD
NEUTRAL
YKE31-0120
C101
R101
L101
C102
D105
K1V24
D101
D2SB60F4004
C103
C104
C105
FG101
R102
FG102
POWER TRANSFORMER
T101
R218
180 1/2W
R219
180 1/2W
F201
VEK1033
10
D202
VZF1051
C213
0.022
50V
R214
47
D209
10ELS2
Q201
T4F4T
C201
2200
25V
D207
RD33FB2
11
C214
0.01
50V
Q203
T7F4S
D211
10ELS2
C202
2200
25V
C215
0.022
50V
R216
47
F202
VEK1033
12
D203
S3L20U
R105
D153
VZF1045
C112
Q150
VZF1049
2
3
R106
D154
VZF1053
C151
R151
C116
L150
4
5
C155
Q101
VZF1050
C111
L104
C113
R107
7
R111
R108
C114
Q102
2SC3377
R112
D103 2.7V
MTZJ2.7B
R109
C115
R113
C118
8
D204
VZF1052
17
L201
3.3µH
16
C203
2200
10V
C204
2200
10V
R210
47
3W
D205
VZF1052
C205
470
10V
15
14
D104
1SS270A
C208
1000
10V
C209
100
10V
C106
C107
R115
13
D206
S2LA20
L203
39µH
D200
PS2501
R201
68
R204
1.6k
R203
1k
R207
560
R205
220
C108
C211
1
50V
C210
0.047
50V
IC201
AN1431T
R206
1.5k

《NOTE OF SPARE PARTS IN POWER SUPPLY (SYPS) ASSY》

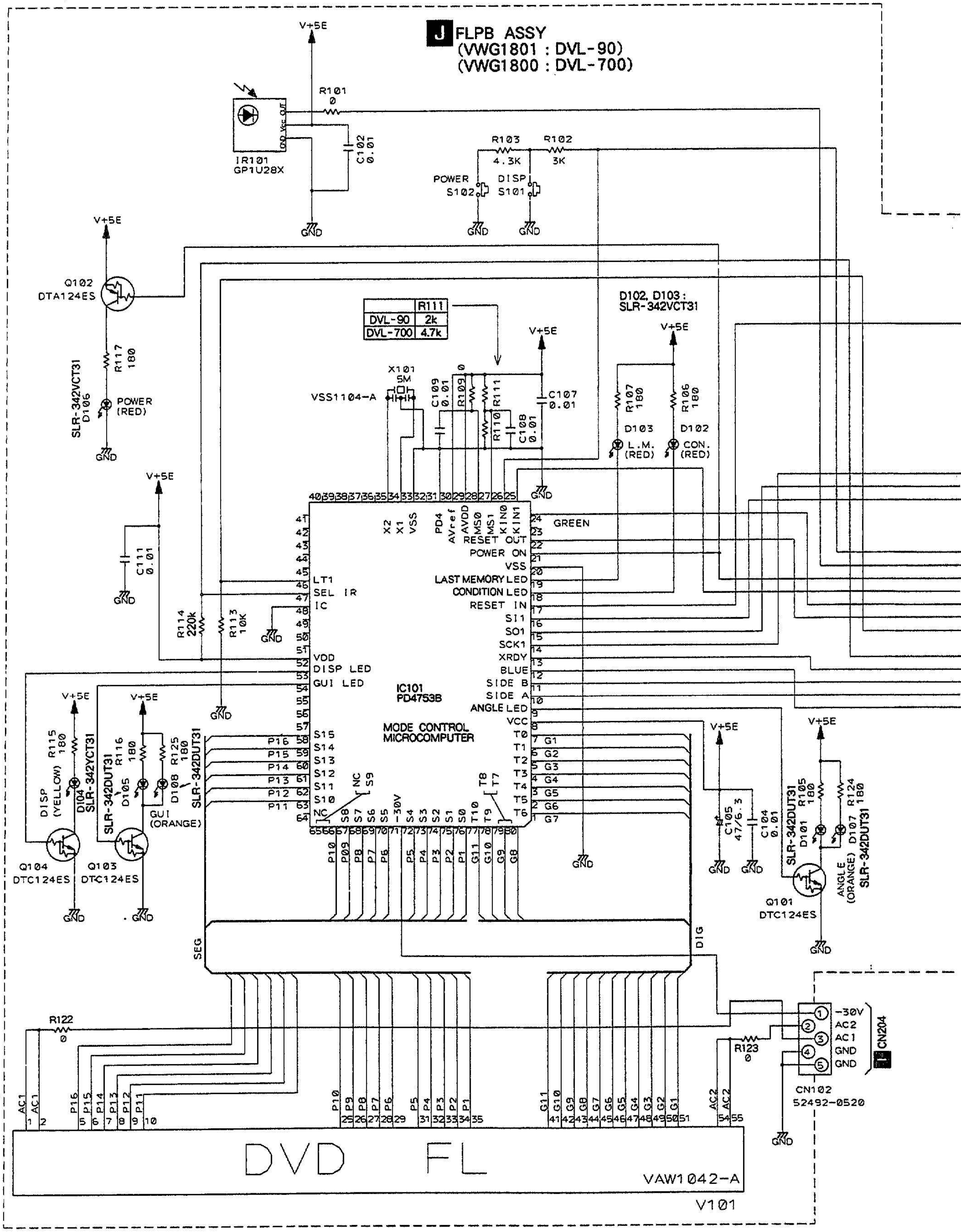
- In case of repairing, use the described parts only to prevent an accident.
- Please write the red √ mark on the board when the primary section of POWER SUPPLY (SYPS) Assy is repaired.
- Please take care to keep the space, not touching other parts when replacing the parts.

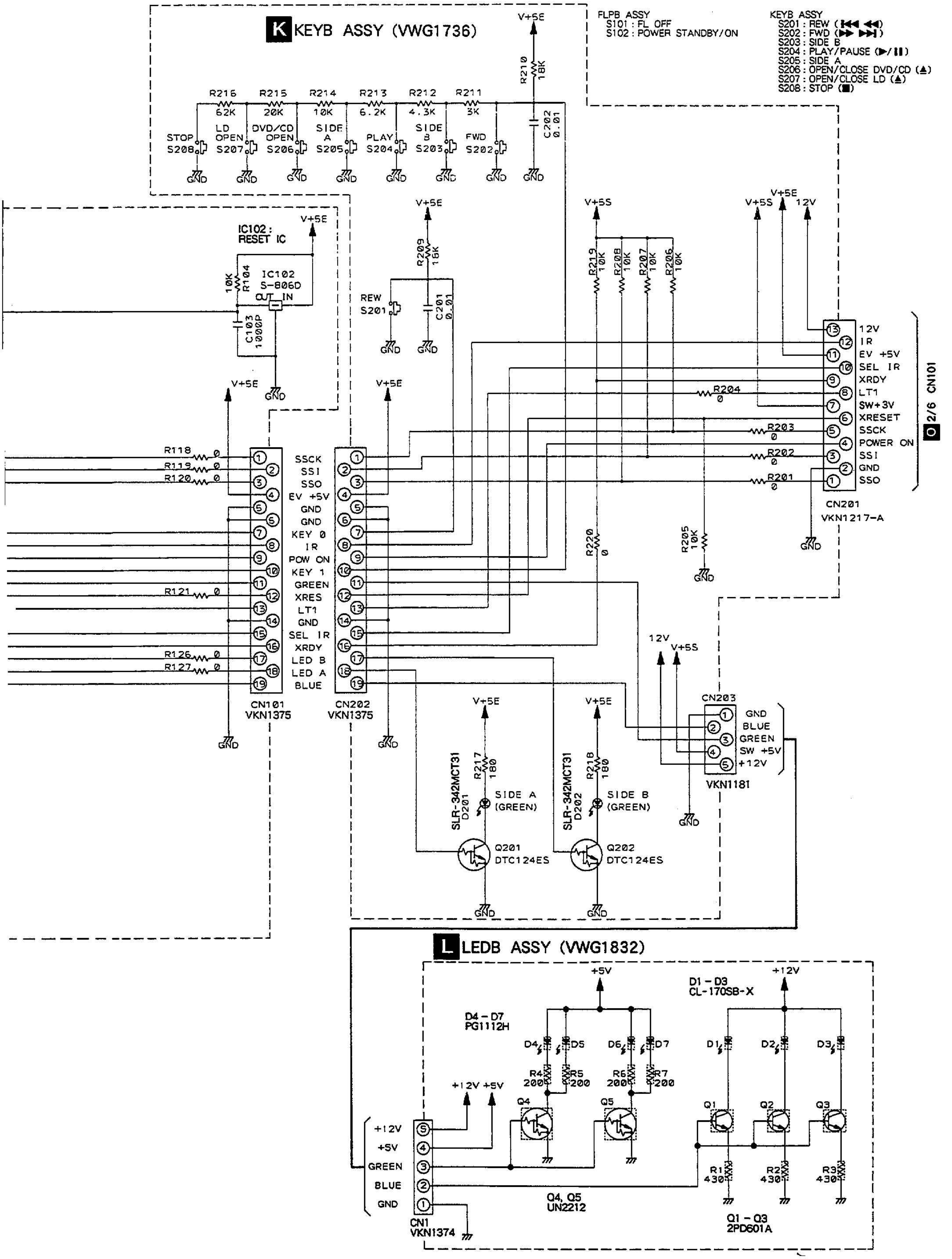
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491001 MFD. BY LITTELFUSE INC. FOR F205 AND F211, 491.500 MFD. BY LITTELFUSE INC. FOR F209, 4911.25 MFD. BY LITTELFUSE INC. FOR F210.


T251
9
1
R222
3.3k
R220
180
1/2W
Q205
2SC1740S
Q207
2SA933S
C256
120
25V
R251
1.2k
2SD2007
D253
MTZJ2.7B
7
2
C255
0.01
50V
C254
0.01
50V
CN204
1 GND
2 GND
3 FL H
4 FL H
5 -30V
J
CN102
52045-0545
Q251
D251
1SS270A
R253
150
6
3
R257
10k
R223
3.3k
Q206
2SC1740S
R215
47
C216
0.022
50V
C219
2.2
50V
D210
10ELS2
Q202
T4F4T
Q208
2SA933S
R252
2.7
C251
0.01
50V
D253
2.7V
R254
150
C252
0.01
50V
5
Q252
D252
30V
C253
100
35V
D254
4
10ELS2
D255
8.2V
MTZJ8.2B
2SC1740S
CN201
2 SPDL M -
1 SPDL M +
SPINDLE MOTOR
B2B-PH-K-S
R224
0.33
1W
D252 VZF1055
L204
640µH
1A
C217
0.01
50V
CN203
15 RET -
14 DRV A
13 DRV B
12 RET +
11 GND
10 GND
9 SW. -5V
8 SW.+5V
7 SW.+5V
6 SW.+5V
5 GND
4 GND
3 +14V
2 - 14V
1 GND
CN301
M (1/3)
52045-1545
Q204
T7F4S
R221
180
1/2W
R225
1k
D212
10ELS2
R217
47
C218
0.022
50V
C220
2.2
50V
R226
1k
F210
1.25A 60V
AEK7010
IC204,IC205:VZF1047
F211 1A 60V
VEK1041
F205 1A 60V
VEK1041
IC204
I O
CT VS
G
IC206:VZF1048
IC205
R243 150
R244 33
IC206
G CT
R241
4.7k
C225
100
10V
CN202
1 GND
2 GND
3 SW.+5V
4 SW.+5V
5 SW.+5V
6 SW.+5V
7 SW.+5V
8 GND
9 GND
10 GND
11 GND
12 GND
13 SW.+3.3V
14 SW.+3.3V
15 GND
16 +12V
17 +12V
18 +12V
19 +12V
20 GND
21 GND
22 POWER ON/OFF
23 EV.+5V
24 GND
CN391
O (1/6)
52806-2410
D240
VZF1054
C226
100
10V
C227
100
10V
C223
100
10V
R242
2.2k
R235
10k
C224
10
16V
R232
150
Q214
2SA933S
IC203
V+
V-
8 7 6 5
1 2 3 4
R237
4.7k
R238
4.7k
C222
100
10V
D230
D231
D232
R231
10k
Q213
2SD2395
F209
500mA 60V
VEK1043
IC203 : UPC358C
D230-D232
VZF1045
D208
1SS270A
R236
1k
FG201

	DRV A	DRV B
SIDE A PLAY	ACCEL	BRAKE
SIDE B PLAY	BRAKE	ACCEL

3.3 FLPB, KEYB AND LEDB ASSEMBLIES


J FLPB ASSY
(VWG1801 : DVL-90)
(VWG1800 : DVL-700)
V+5E
R101
0
IR101
GP1U28X
OUT
Vcc
GND
C102
0.01
R103
4.3K
R102
3K
POWER
S102
DISP
S101
GND
Q102
DTA124ES
R117
180
SLR-342VCT31
D106
POWER
(RED)
R111
DVL-90 2k
DVL-700 4.7k
X101
5M
VSS1104-A
C109
0.01
R109
0
R111
R110
C108
0.01
C107
0.01
D102, D103 :
SLR-342VCT31
R107
180
R106
180
D103
L.M.
(RED)
D102
CON.
(RED)
C111
0.01
R114
220k
R113
10K
X2
X1
VSS
PD4
AVref
AVDD
MS0
MS1
KIN0
KIN1
RESET OUT
POWER ON
VSS
LAST MEMORY LED
CONDITION LED
RESET IN
SI1
SO1
SCK1
XRDY
BLUE
SIDE B
SIDE A
ANGLE LED
VCC
GREEN
LT1
SEL IR
IC
VDD
DISP LED
GUI LED
IC101
PD4753B
MODE CONTROL
MICROCOMPUTER
S15
S14
S13
S12
S11
S10
NC
P16
P15
P14
P13
P12
P11
NC
S9
S8
S7
S6
S5
-30V
S4
S3
S2
S1
S0
T10
T9
T8
T7
T0
T1
T2
T3
T4
T5
T6
G1
G2
G3
G4
G5
G6
G7
P10
P09
P8
P7
P6
P5
P4
P3
P2
P1
G11
G10
G9
G8
R115
180
DISP
(YELLOW)
D104
SLR-342YCT31
R116
180
SLR-342DUT31
D105
D108
R125
180
SLR-342DUT31
GUI
(ORANGE)
Q104
DTC124ES
Q103
DTC124ES
C105
47/6.3
C104
0.01
R105
180
SLR-342DUT31
D101
R124
180
D107
ANGLE
(ORANGE)
SLR-342DUT31
Q101
DTC124ES
SEG
DIG
R122
0
R123
0
-30V
AC2
AC1
GND
GND
CN204
CN102
52492-0520
AC1
AC1
P16
P15
P14
P13
P12
P11
G11
G10
G9
G8
G7
G6
G5
G4
G3
G2
G1
AC2
AC2
DVD FL
VAW1042-A
V101



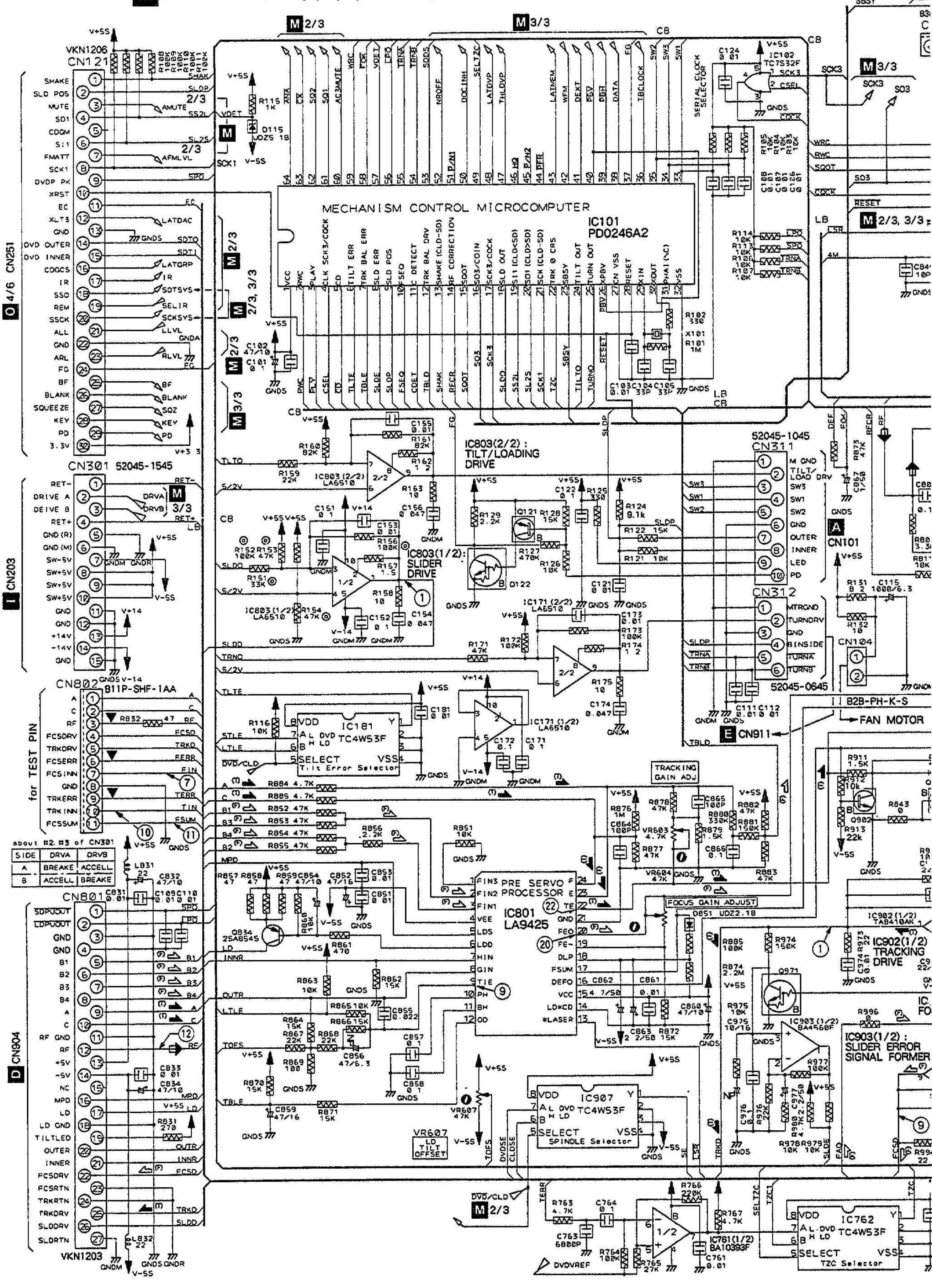
FLPB ASSY
S101 : FL OFF
S102 : POWER STANDBY/ON

KEYB ASSY
S201 : REW (⏮ ◀◀)
S202 : FWD (▶▶ ⏭)
S203 : SIDE B
S204 : PLAY/PAUSE (▶/❚❚)
S205 : SIDE A
S206 : OPEN/CLOSE DVD/CD (⏏)
S207 : OPEN/CLOSE LD (⏏)
S208 : STOP (■)

K KEYB ASSY (VWG1736)
V+5E
R210 18K
C202 0.01
R216 62K
R215 20K
R214 10K
R213 6.2K
R212 4.3K
R211 3K
STOP S208
LD OPEN S207
DVD/CD OPEN S206
SIDE A S205
PLAY S204
SIDE B S203
FWD S202
GND
IC102 : RESET IC
IC102 S-806D
OUT IN
R104 10K
C103 1000P
R209 16K
REW S201
C201 0.01
V+5S
R219 10K
R208 10K
R207 10K
R206 10K
12V
12V
IR
EV +5V
SEL IR
XRDY
LT1
SW+3V
XRESET
SSCK
POWER ON
SSI
GND
SSO
R204 0
R203 0
R202 0
R201 0
O 2/6 CN101
CN201
VKN1217-A
R205 10K
R220 0
R118 0
R119 0
R120 0
R121 0
R126 0
R127 0
SSCK
SSI
SSO
EV +5V
GND
GND
KEY 0
IR
POW ON
KEY 1
GREEN
XRES
LT1
GND
SEL IR
XRDY
LED B
LED A
BLUE
CN101
VKN1375
CN202
VKN1375
CN203
GND
BLUE
GREEN
SW +5V
+12V
VKN1181
SLR-342MCT31 D201
R217 180
SIDE A (GREEN)
Q201 DTC124ES
SLR-342MCT31 D202
R218 180
SIDE B (GREEN)
Q202 DTC124ES
L LEDB ASSY (VWG1832)
+5V
+12V
D1 - D3
CL-170SB-X
D4 - D7
PG1112H
D4 D5 D6 D7
R4 200
R5 200
R6 200
R7 200
D1 D2 D3
Q4 Q5
Q1 Q2 Q3
R1 430
R2 430
R3 430
+12V
+5V
GREEN
BLUE
GND
CN1
VKN1374
Q4, Q5
UN2212
Q1 - Q3
2PD601A

3.4 CLD MAIN ASSY (1/3)

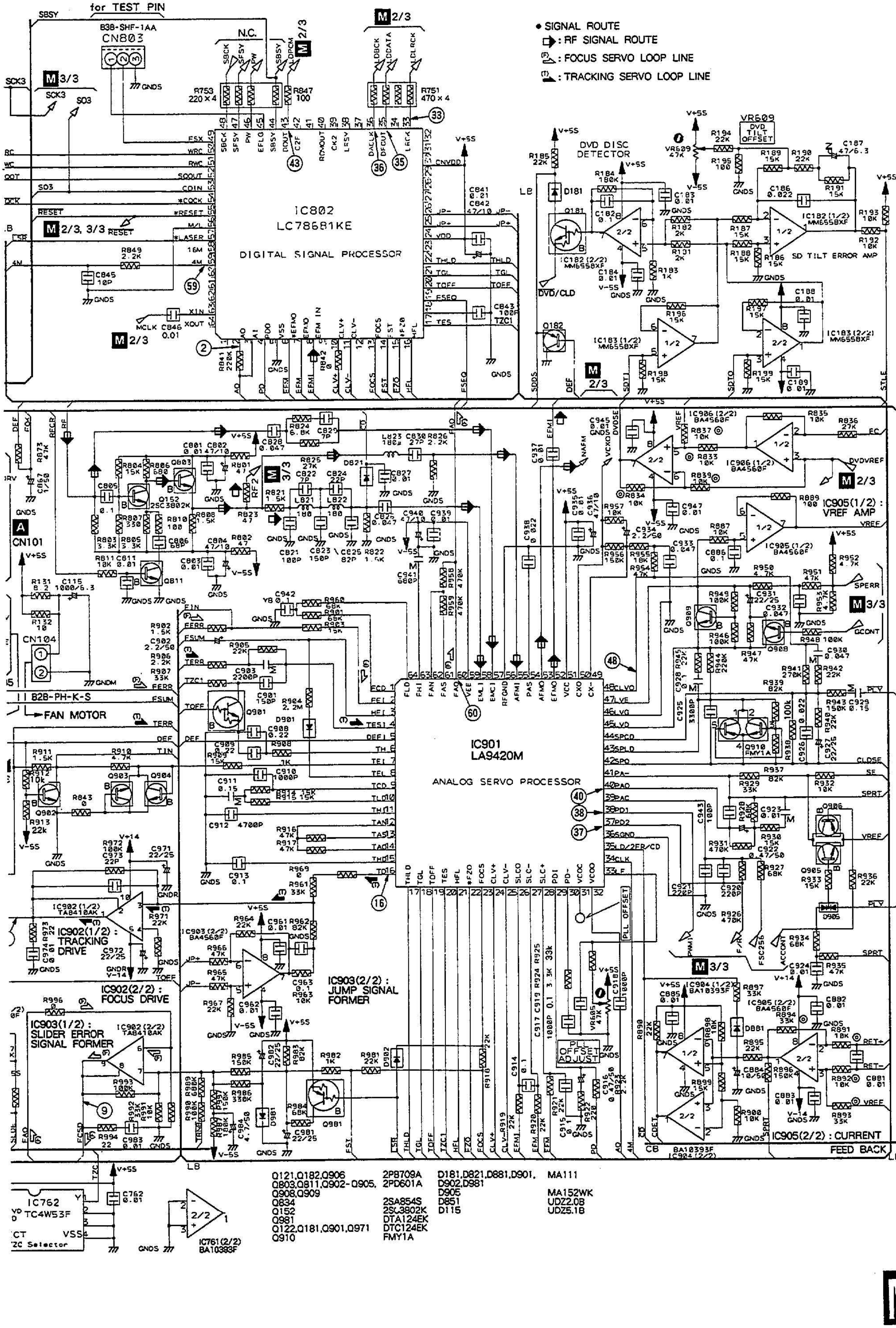
M CLD MAIN ASSY (1/3) (VWS1285)



M 2/3
M 3/3
VKN1206
CN121
V+5S
SHAKE
SLD POS
MUTE
SD1
CDGM
S11
FMATT
SCK1
DVDP PK
XRST
EC
XLT3
GND
DVD OUTER
DVD INNER
CDGCS
IR
SSO
REM
SSCK
ALL
ARL
FG
BF
BLANK
SQUEEZE
KEY
PD
3.3V
O 4/6 CN251
MECHANISM CONTROL MICROCOMPUTER
IC101
PD0246A2
IC102
TC7S32F
SERIAL CLOCK SELECTOR
D115
UDZS 18
X101
IC803(2/2) : TILT/LOADING DRIVE
IC803(1/2): SLIDER DRIVE
LA6510
Q121
Q122
IC171(2/2)
IC171(1/2)
52045-1045
CN311
M GND
TILT/LOAD DRV
SW3
SW1
SW2
GND
OUTER
INNER
LED
PD
CN312
MTRGND
TURNDRV
GND
BINSIDE
TURNA
TURNB
52045-0645
A CN101
CN104
B2B-PH-K-S
FAN MOTOR
E CN911
CN301 52045-1545
RET-
DRIVE A
DRIVE B
RET+
GND (R)
GND (M)
SW-5V
SW+5V
GND
+14V
-14V
I CN203
CN802
B11P-SHF-1AA
A
C
RF
FCSDRV
TRKDRV
FCSERR
FCSINN
GND
TRKERR
TRKINN
FCSSUM
for TEST PIN
IC181
TC4W53F
Tilt Error Selector
TRACKING GAIN ADJ
PRE SERVO PROCESSOR
IC801
LA9425
FOCUS GAIN ADJUST
D851 UDZ2.18
IC902(1/2) TRACKING DRIVE
IC903(1/2) : SLIDER ERROR SIGNAL FORMER
Q902
Q971
Q834
2SA854S
CN801
SDPUOUT
LDPUOUT
GND
B1
B2
B3
B4
A
C
RF GND
RF
+5V
-5V
NC
MPD
LD
LD GND
TILTLED
OUTER
INNER
FCSDRV
FCSRTN
TRKRTN
TRKDRV
SLDDRV
SLDRTN
VKN1203
D CN904
IC907
TC4W53F
SPINDLE Selector
VR607
LD TILT OFFSET
DVD/CLD
M 2/3
DVDVREF
IC761(1/2)
BA10393F
IC762
TC4W53F
TZC Selector

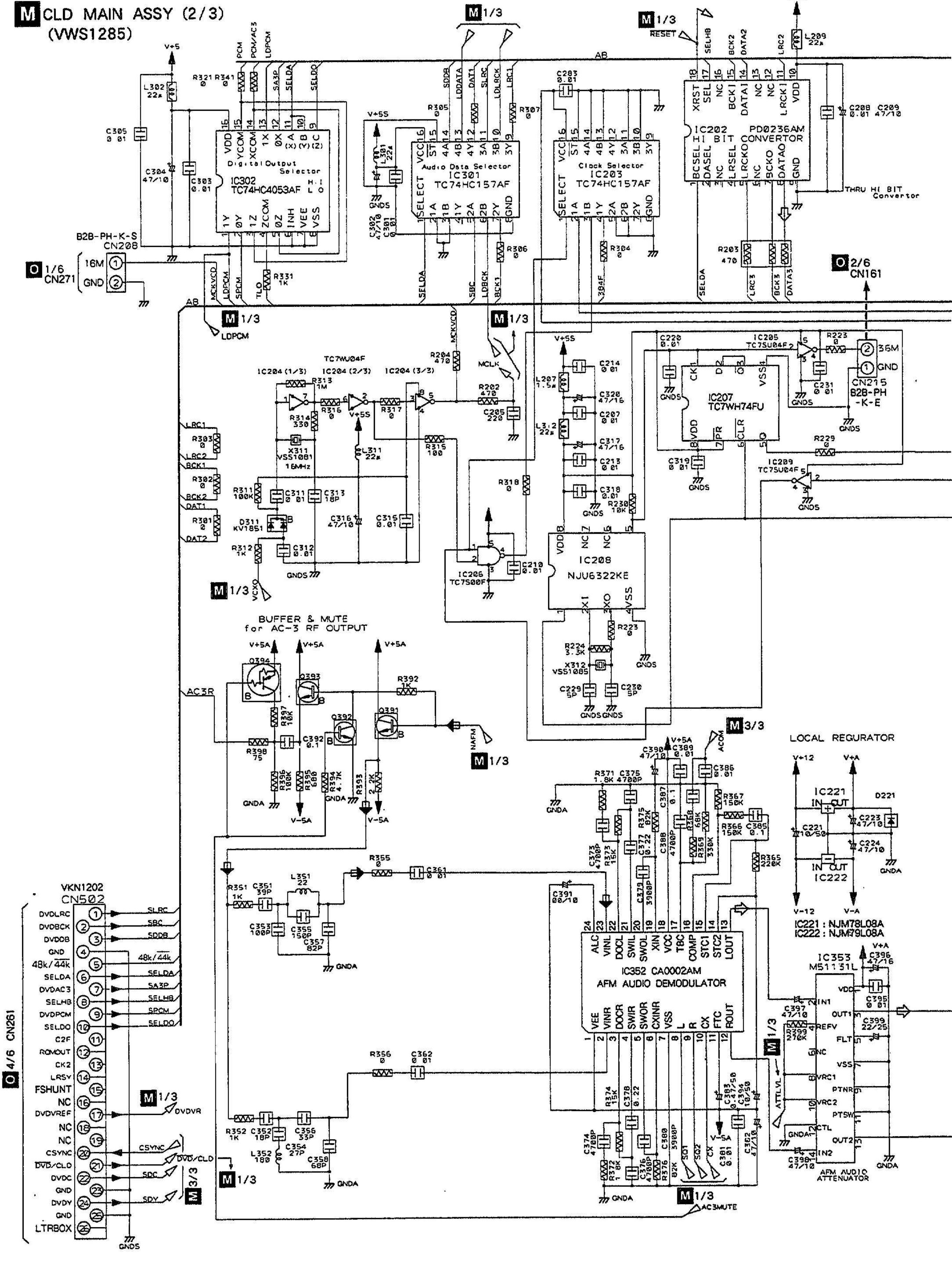
about #2, #3 of CN301

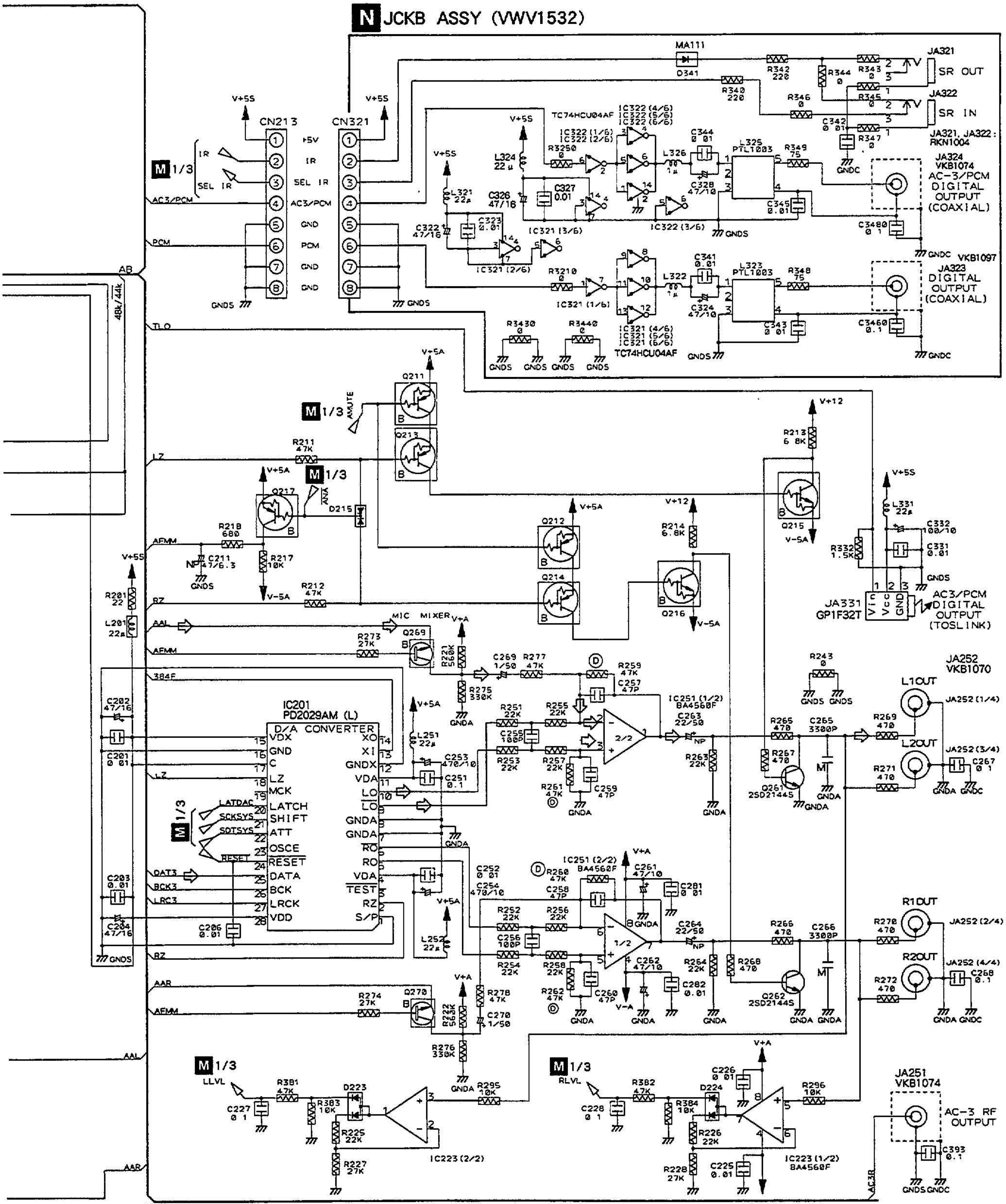
SIDE	DRVA	DRVB
A	BREAKE	ACCELL
B	ACCELL	BREAKE


for TEST PIN
B3B-SHF-1AA
CN803
N.C.
M 2/3
M 3/3
M 2/3, 3/3
IC802
LC78681KE
DIGITAL SIGNAL PROCESSOR
• SIGNAL ROUTE
: RF SIGNAL ROUTE
: FOCUS SERVO LOOP LINE
: TRACKING SERVO LOOP LINE
DVD DISC DETECTOR
VR609 DVD TILT OFFSET
IC182 (1/2) MM6558XF
IC182 (2/2) MM6558XF
SD TILT ERROR AMP
IC183 (1/2) MM6558XF
IC183 (2/2) MM6558XF
DVD/CLD
A
CN101
CN104
B2B-PH-K-S
FAN MOTOR
IC986 (2/2) BA4560F
IC906 (1/2) BA4560F
IC905 (1/2) : VREF AMP
IC905 (1/2) BA4560F
IC901
LA9420M
ANALOG SERVO PROCESSOR
IC902 (1/2) TA8410AK
IC902 (1/2) : TRACKING DRIVE
IC902 (2/2) : FOCUS DRIVE
IC903 (2/2) BA4560F
IC903 (2/2) : JUMP SIGNAL FORMER
IC903 (1/2) : SLIDER ERROR SIGNAL FORMER
IC902 (2/2) TA8410AK
PLL OFFSET
PLL OFFSET ADJUST
VR605
IC904 (1/2) BA10393F
IC905 (2/2) BA4560F
IC904 (2/2) BA10393F
IC905 (2/2) : CURRENT FEED BACK
IC762
TC4W53F
ZC Selector
IC761 (2/2) BA10393F
Q152 2SC3802K
Q910 FMY1A

Q121,Q182,Q906 Q803,Q811,Q902-Q905, Q908,Q909	2P8709A 2PD601A	D181,D821,D881,D901, D902,D981	MA111
Q834	2SA854S	D905	MA152WK
Q152	2SC3802K	D851	UDZ2.0B
Q981	DTA124EK	D115	UDZ5.1B
Q122,Q181,Q901,Q971	DTC124EK		
Q910	FMY1A		

3.5 CLD MAIN (2/3) AND JCKB ASSEMBLIES


M CLD MAIN ASSY (2/3)
(VWS1285)
M 1/3
M 1/3
RESET
V+5S
AB
V+5
L302 22μ
C305 0.01
C304 47/10
C303 0.01
R321 0
R341 0
PCM
PCM/AC3
LDPCM
SA3P
SELDA
SELDO
IC302 TC74HC4053AF
Digital Output Selector
VDD YCOM XCOM 1X 0X A B C
1Y 0Y 1Z ZCOM 0Z INH VEE VSS
B2B-PH-K-S
CN208
16M
GND
O 1/6 CN271
R331 1K
MCKVCD
LDPCM
SPCM
TLO
M 1/3
LDPCM
R305 0
SDDB
LDDATA
DAT1
SLRC
LDLRCK
LRC1
R307 0
L301 22μ
C302 47/10
C301 0.01
GNDS
IC301 TC74HC157AF
Audio Data Selector
VCC ST 4A 4B 4Y 3A 3B 3Y
SELECT 1A 1B 1Y 2A 2B 2Y GND
R306 0
SELDA
SBC
BCK1
C283 0.01
IC203 TC74HC157AF
Clock Selector
R304 0
384F
IC202 PD0236AM
HI BIT CONVERTOR
XRST SEL NC BCK1 DATA1 NC NC LRCK1 VDD
BCSEL DASEL NC LRSEL LRCKO NC BCKO DATAO GND
SELHB
BCK2
DATA2
LRC2
L209 22μ
C208 0.01
C209 47/10
THRU HI BIT Convertor
R203 470
LRC3
BCK3
DATA3
O 2/6 CN161
M 1/3
TC7WU04F
IC204 (1/3)
IC204 (2/3)
IC204 (3/3)
R313 1M
R314 330
R316 0
R317 0
V+5S
R204 470
MCKVCD
MCLK
R202 470
C205 220
X311 VSS1081 16MHz
L311 22μ
R315 100
R311 100K
C311 0.01
C313 18P
D311 KV1851
C316 47/10
C315 0.01
R312 1K
C312 0.01
GNDS
M 1/3 VCXO
LRC1
R303 0
LRC2
BCK1
R302 0
BCK2
DAT1
R301 0
DAT2
V+5S
L207 1.5μ
C214 0.01
C320 47/16
C207 0.01
L3.2 22μ
C317 47/16
C213 0.01
C318 0.01
R230 10K
R318 0
IC206 TC7S00F
C210 0.01
IC208 NJU6322KE
VDD NC NC
XI XO VSS
R224 3.3K
X312 VSS1085
R223 0
C229 5P
C230 5P
GNDS
C220 0.01
IC205 TC7SU04F
R223 0
IC207 TC7WH74FU
CK D Q VSS VDD PR CLR
C231 0.01
CN215 B2B-PH-K-E
36M
GND
R229 0
C319 0.01
IC209 TC7SU04F
BUFFER & MUTE for AC-3 RF OUTPUT
V+5A
Q394
Q393
Q392
Q391
R392 1K
R397 10K
AC3R
R398 75
C392 0.1
R396 100K
R395 680
R394 4.7K
R393 2.2K
GNDA
V-5A
NAFM
M 1/3
M 3/3
ACOM
LOCAL REGURATOR
V+12
V+A
IC221
IN OUT
D221
C221 10/50
C223 47/10
C224 47/10
IC222
V-12
V-A
IC221 : NJM78L08A
IC222 : NJM79L08A
C390 47/10
C389 0.01
V+5A
C386 0.01
R371 1.8K
C375 4700P
R367 150K
R366 150K
C385 0.1
C373 4700P
R373 15K
C377 0.22
R375 82K
C387 0.1
C388 4700P
R368 68K
R369 330K
R365 220K
C379 3900P
R355 0
C361 0.01
C391 68/10
R351 1K
C351 39P
L351 22
C353 100P
C355 150P
C357 82P
IC352 CA0002AM
AFM AUDIO DEMODULATOR
ALC VINL DOCL SWIL SWOL XIN VCC TBC COMP STC1 STC2 LOUT
VEE VINR DOCR SWIR SWOR CXINR VSS L R CX FTC ROUT
IC353 M51131L
V+A
C396 0.01
C395 47/16
C397 47/10
R399 270K
C399 22/25
VDD IN1 OUT1 REFV FLT NC VSS VRC1 PTNR VRC2 PTSW CTL OUT2 IN2
C398 47/10
GNDA
AFM AUDIO ATTENUATOR
ATTLVL
M 1/3
VKN1202
CN502
DVDLRC
DVDBCK
DVDDB
GND
48k/44k
SELDA
DVDAC3
SELHB
DVDPCM
SELDO
C2F
ROMOUT
CK2
LRSY
FSHUNT
NC
DVDVREF
NC
NC
CSYNC
DVD/CLD
DVDC
GND
DVDY
GND
LTRBOX
SLRC
SBC
SDDB
48k/44k
SELDA
SA3P
SELHB
SPCM
SELDO
O 4/6 CN261
M 1/3 DVDVR
CSYNC
DVD/CLD
SDC
SDY
M 3/3
M 1/3
GNDS
R356 0
C362 0.01
R352 1K
C352 18P
C356 33P
L352 180
C354 27P
C358 68P
R374 15K
C378 0.22
C374 4700P
R372 1.8K
C376 4700P
R376 82K
C380 3900P
SQ1
SQ2
CX
V-5A
C381 0.01
C383 0.47/50
C384 10/50
C382 47/10
M 1/3
AC3MUTE


N JCKB ASSY (VWV1532)
M 1/3
CN213
CN321
+5V
IR
SEL IR
AC3/PCM
GND
PCM
V+5S
GNDS
MA111
D341
R342 220
R340 220
R344 0
R343 0
R345 0
R346 0
R347 0
C342 0.01
JA321
SR OUT
JA322
SR IN
JA321, JA322 : RKN1004
TC74HCU04AF
IC322 (1/6)
IC322 (2/6)
IC322 (4/6)
IC322 (5/6)
IC322 (6/6)
IC322 (3/6)
L324 22μ
R3250 0
C327 0.01
C326 47/16
L321 22μ
C323 0.01
C322 47/16
IC321 (2/6)
IC321 (3/6)
IC321 (1/6)
IC321 (4/6)
IC321 (5/6)
IC321 (6/6)
R3210 0
L326 1μ
L322 1μ
C344 0.01
C328 47/10
C341 0.01
C324 47/10
L325 PTL1003
L323 PTL1003
R349 75
R348 75
C345 0.01
C343 0.01
C3480 0.1
C3460 0.1
JA324 VKB1074
AC-3/PCM DIGITAL OUTPUT (COAXIAL)
VKB1097
JA323 DIGITAL OUTPUT (COAXIAL)
GNDC
R3430 0
R3440 0
AB
48k/44k
TLO
LZ
RZ
AFMM
AAL
AAR
384F
Q211
Q213
Q212
Q214
Q215
Q216
Q217
AMUTE
ANA
R211 47K
R212 47K
R218 680
R217 10K
C211 47/6.3
D215
R201 22
L201 22μ
V+5A
V-5A
V+12
R213 6.8K
R214 6.8K
L331 22μ
C332 100/10
C331 0.01
R332 1.5K
JA331 GP1F32T
AC3/PCM DIGITAL OUTPUT (TOSLINK)
MIC MIXER
V+A
Q269
Q270
R273 27K
R274 27K
R221 560K
R222 560K
R275 330K
R276 330K
C269 1/50
C270 1/50
R277 47K
R278 47K
GNDA
IC201 PD2029AM (L)
D/A CONVERTER
VDX
GND
C
LZ
MCK
LATCH
SHIFT
ATT
OSCE
RESET
DATA
BCK
LRCK
VDD
XO
XI
GNDX
VDA
LO
GNDA
RO
TEST
RZ
S/P
LATDAC
SCKSYS
SDTSYS
DAT3
BCK3
LRC3
C202 47/16
C201 0.01
C203 0.01
C204 47/16
C206 0.01
L251 22μ
L252 22μ
C253 470/10
C251 0.1
C252 0.01
C254 470/10
R259 47K
C257 47P
R251 22K
R255 22K
C255 100P
R253 22K
R257 22K
R261 47K
C259 47P
IC251 (1/2) BA4560F
IC251 (2/2) BA4560F
C263 22/50
R263 22K
R265 470
C265 3300P
R267 470
Q261 2SD2144S
R243 0
R269 470
R271 470
JA252 VKB1070
L1OUT
L2OUT
JA252 (1/4)
JA252 (3/4)
C267 0.1
R260 47K
C258 47P
C261 47/10
C281 0.01
R252 22K
R256 22K
C256 100P
R254 22K
R258 22K
R262 47K
C260 47P
C262 47/10
C282 0.01
C264 22/50
R264 22K
R266 470
C266 3300P
R268 470
Q262 2SD2144S
R270 470
R272 470
R1OUT
R2OUT
JA252 (2/4)
JA252 (4/4)
C268 0.1
LLVL
RLVL
R381 47K
R382 47K
R383 10K
R384 10K
C227 0.1
C228 0.1
D223
D224
R225 22K
R226 22K
R227 27K
R228 27K
IC223 (2/2)
IC223 (1/2) BA4560F
R295 10K
R296 10K
C226 0.01
C225 0.01
JA251 VKB1074
AC-3 RF OUTPUT
C393 0.1
AC3R
GNDS GNDC

Q269,Q270,Q391-Q393	2PD601A
Q261,Q262	2SD2144S
Q211-Q214,Q217,Q394	DTA124EK
Q215,Q216	DTC124EK

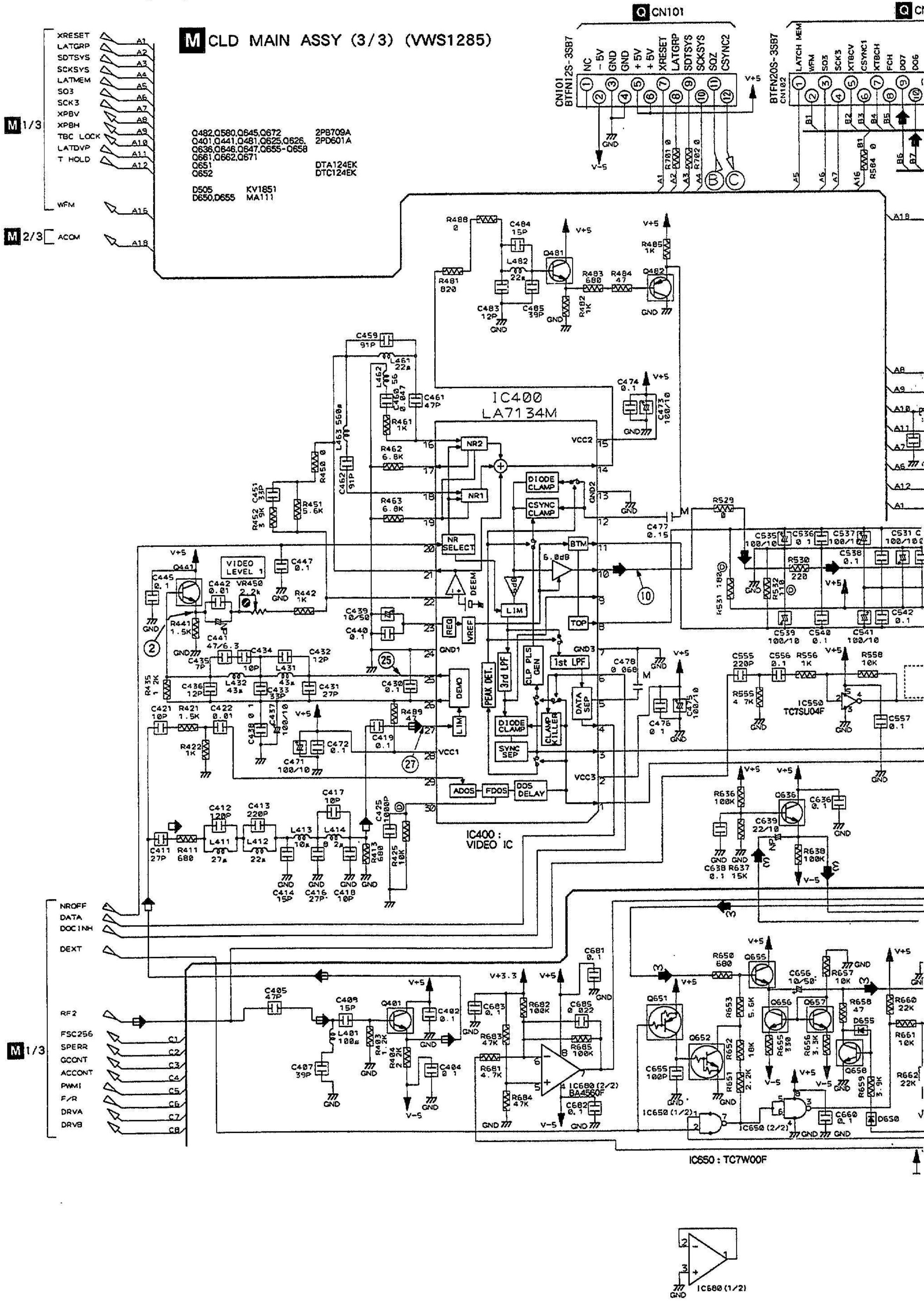
D221	EC10QS04
D311	KV1851
D223,D224	MA152WA
D215	MA152WK

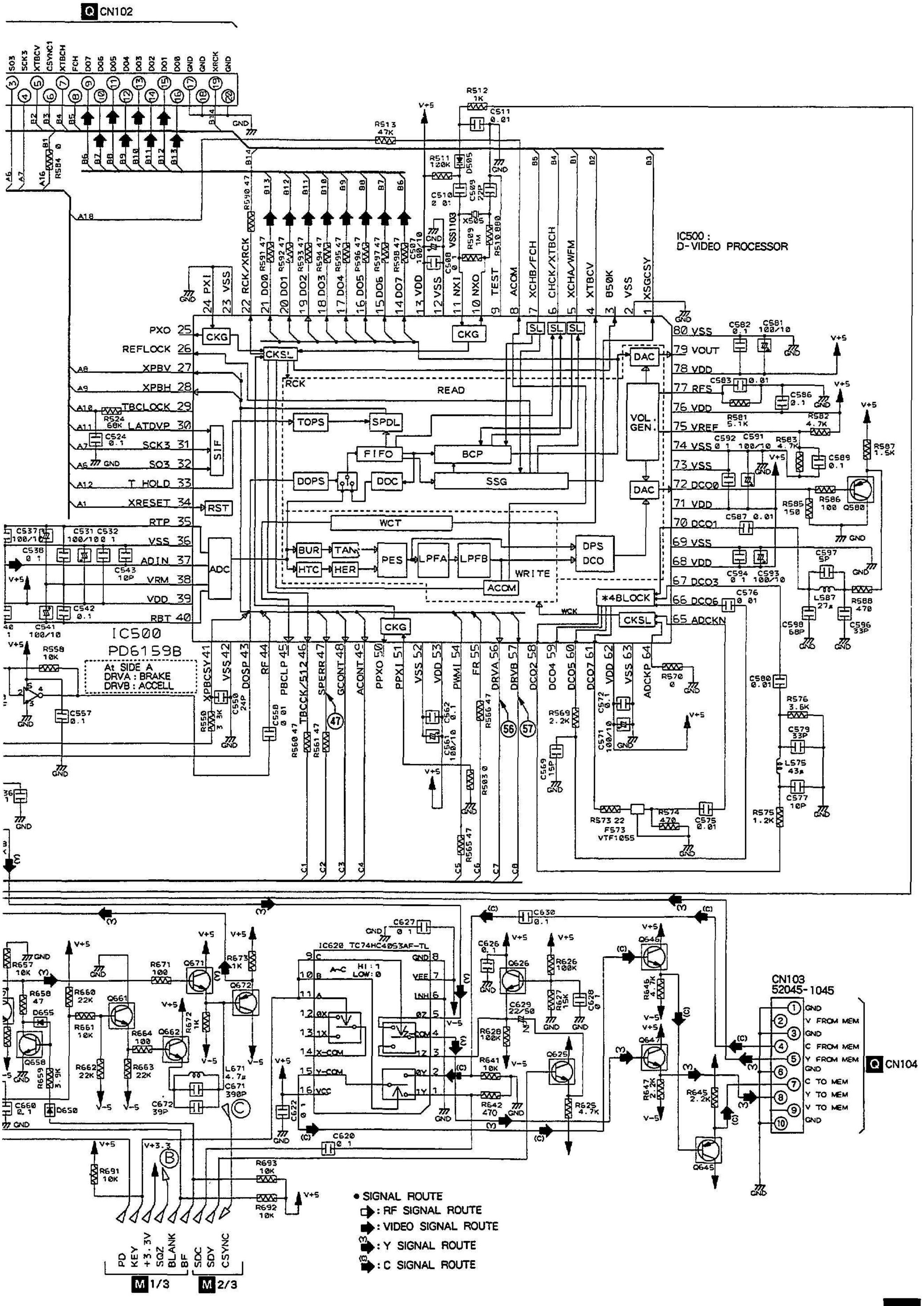
● SIGNAL ROUTE

➡ : RF SIGNAL ROUTE

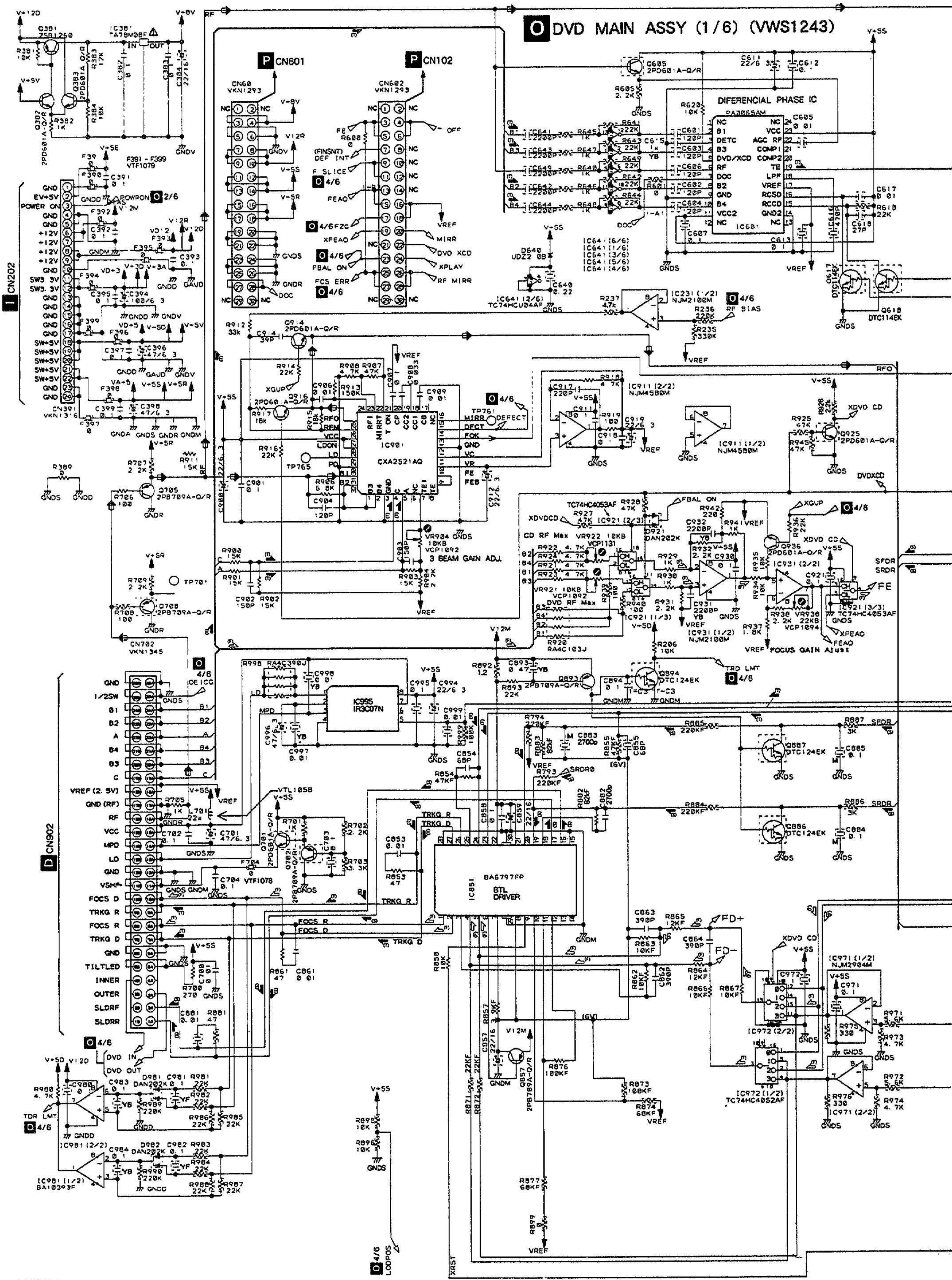
⇨ : AUDIO SIGNAL ROUTE

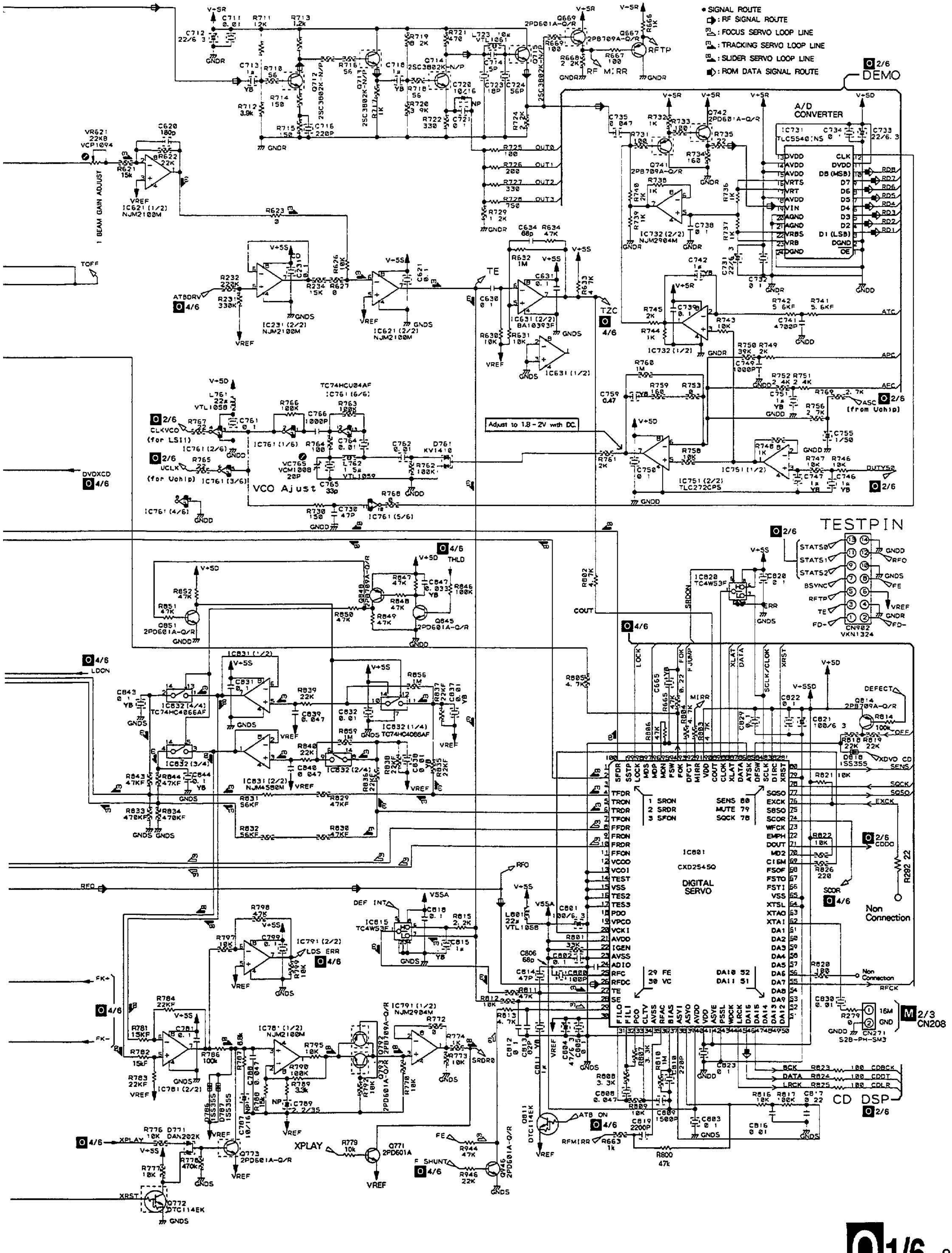
3.6 CLD MAIN ASSY (3/3)


M CLD MAIN ASSY (3/3) (VWS1285)
Q CN101
CN101 BTFN12S-3SB7
NC
-5V
GND
GND
+5V
+5V
XRESET
LATGRP
SDTSYS
SCKSYS
SQZ
CSYNC2
CN102 BTFN20S-3SB7
LATCH MEM
WFM
SO3
SCK3
XTBCV
CSYNC1
XTBCH
FCH
D07
D06
M 1/3
XRESET
LATGRP
SDTSYS
SCKSYS
LATMEM
SO3
SCK3
XPBV
XPBH
TBC LOCK
LATDVP
T HOLD
WFM
M 2/3
ACOM
Q482,Q580,Q645,Q672 2PB709A
Q401,Q441,Q481,Q625,Q626, 2PD601A
Q636,Q646,Q647,Q655-Q658
Q661,Q662,Q671
Q651 DTA124EK
Q652 DTC124EK
D505 KV1851
D650,D655 MA111
IC400
LA7134M
VIDEO LEVEL 1
VR450 2.2k
NR2
NR1
NR SELECT
DIODE CLAMP
CSYNC CLAMP
BTM
6.0dB
DEEM
LIM
REG
VREF
TOP
1st LPF
3rd LPF
PEAK DET.
CLP PLS GEN
DATA SEP
DEMO
DIODE CLAMP
CLAMP KILLER
SYNC SEP
ADOS
FDOS
DOS DELAY
VCC1
VCC2
VCC3
GND1
GND2
GND3
IC400 : VIDEO IC
IC550 TC7SU04F
NROFF
DATA
DOC INH
DEXT
RF2
FSC256
SPERR
GCONT
ACCONT
PWMI
F/R
DRVA
DRVB
M 1/3
IC680 (2/2) BA4560F
IC650 (1/2)
IC650 (2/2)
IC650 : TC7W00F
IC680 (1/2)

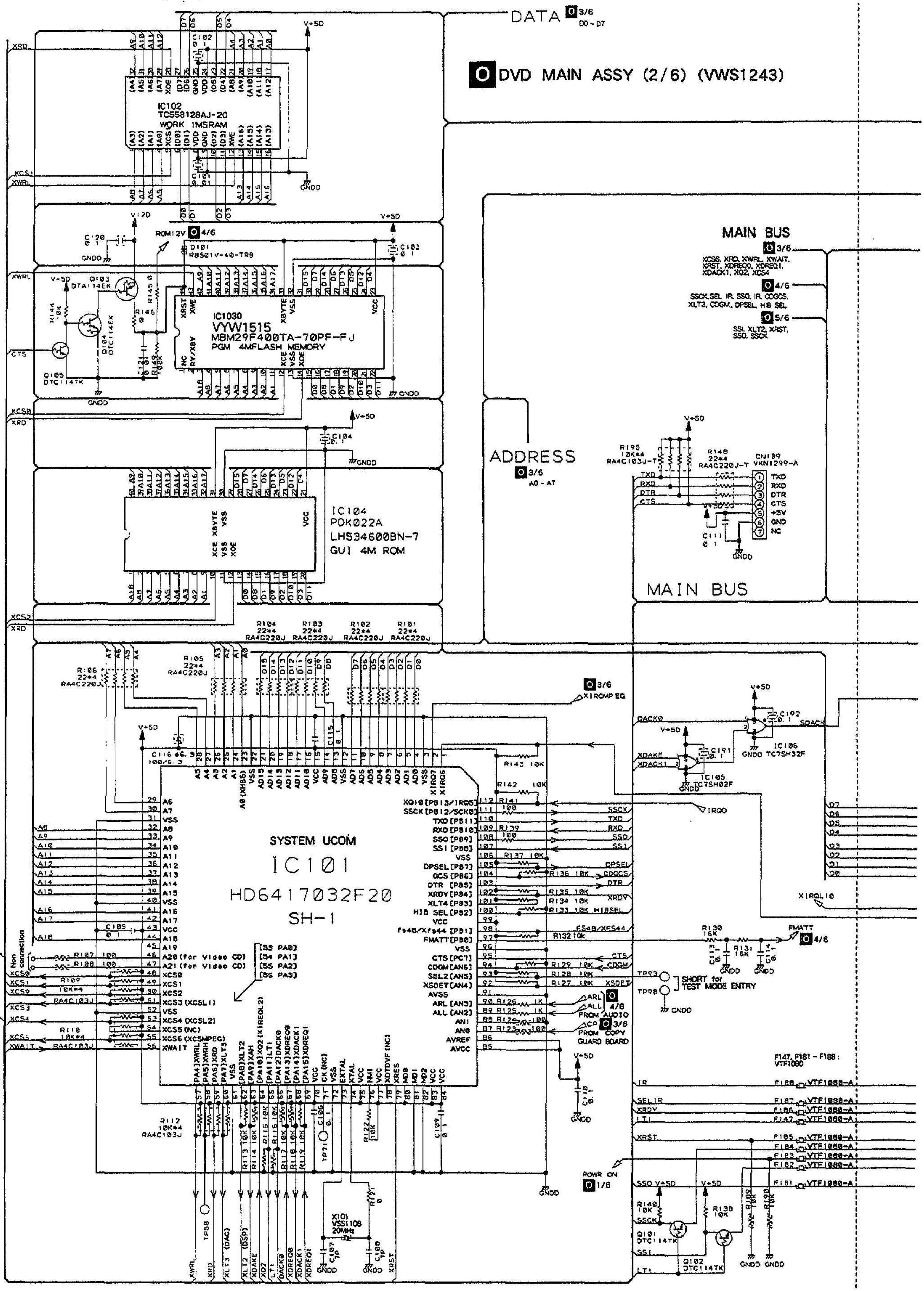

Q CN102
SO3
SCK3
XTBCV
CSYNC1
XTBCH
FCH
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DO0
GND
GND
XRCK
GND
IC500 :
D-VIDEO PROCESSOR
IC500
PD6159B
At SIDE A
DRVA : BRAKE
DRVB : ACCELL
PXO
REFLOCK
XPBV
XPBH
TBCLOCK
LATDVP
SCK3
SO3
T HOLD
XRESET
RTP
VSS
ADIN
VRM
VDD
RBT
CKG
CKSL
RCK
READ
TOPS
SPDL
SIF
FIFO
BCP
DOPS
DOC
SSG
RST
WCT
BUR
TAN
HTC
HER
PES
LPFA
LPFB
ADC
WRITE
ACOM
DPS
DCO
DAC
VOL.
GEN.
*4BLOCK
80 VSS
79 VOUT
78 VDD
77 RFS
76 VDD
75 VREF
74 VSS
73 VSS
72 DCO0
71 VDD
70 DCO1
69 VSS
68 VDD
67 DCO3
66 DCO6
65 ADCKN
XSGCSY
B50K
XTBCV
XCHA/XWFM
CHCK/XTBCH
XCHB/FCH
ACOM
TEST
NXO
NXI
VSS
VDD
RCK/XRCK
PX1
XPBCSY
DOSP
RF
PBCLP
TBCCK/512
SPERR
GCONT
ACONT
PPXO
PPXI
PWMI
FR
DRVA
DRVB
DCO2
DCO4
DCO5
DCO7
ADCKP
F573
VTF1055
IC620 TC74HC4053AF-TL
HI : 1
LOW : 0
CN103
52045-1045
GND
V FROM MEM
GND
C FROM MEM
Y FROM MEM
GND
C TO MEM
Y TO MEM
V TO MEM
GND
Q CN104
PD
KEY
+3.3V
SQZ
BLANK
BF
SDC
SDY
CSYNC
M 1/3
M 2/3
• SIGNAL ROUTE
: RF SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
: Y SIGNAL ROUTE
: C SIGNAL ROUTE

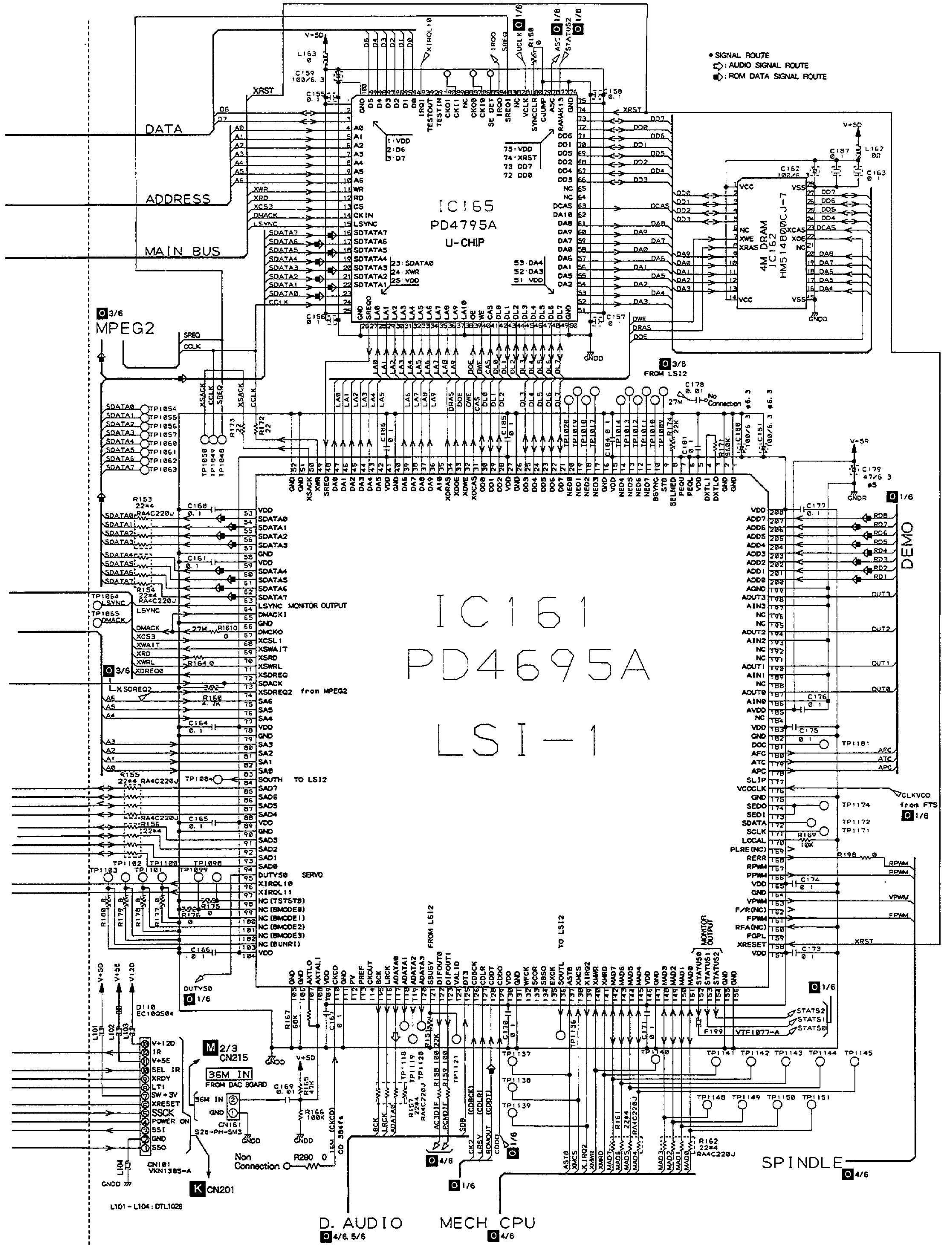
3.7 DVD MAIN ASSY (1/6)


O DVD MAIN ASSY (1/6) (VWS1243)
P CN601
P CN102
CN60 VKN1293
CN602 VKN1293
IC381 TA78M08F
Q381 2SB1250
Q382 2PD601A-Q/R
Q383 2PD601A-Q/R
DIFERENCIAL PHASE IC
PA2065AM
IC601
Q605 2PD601A-Q/R
I CN202
CN391 VKN1316
F391 - F399 VTF1079
POWRON O 2/6
IC231 (1/2) NJM2100M
RF BIAS
Q617 DTC114EK
Q618 DTC114EK
IC641 (2/6) TC74HCU04AF
D640 UDZ2 0B
IC901 CXA2521AQ
Q914 2PD601A-Q/R
Q916 2PD601A-Q/R
TP761
DEFECT
TP765
IC911 (2/2) NJM4580M
IC911 (1/2) NJM4580M
Q925 2PD601A-Q/R
XDVD CD
DVDXCD
VR904 10KB VCP1092
3 BEAM GAIN ADJ.
TC74HC4053AF
IC921 (2/3)
D921 DAN202K
CD RF Max
VR922 10KB VCP1131
VR921 10KB VCP1092
DVD RF Max
IC921 (1/3)
IC931 (1/2) NJM2100M
IC931 (2/2)
IC921 (3/3) TC74HC4053AF
VR936 22KB VCP1094
FOCUS GAIN Adjust
Q936 2PD601A-Q/R
SFDR
SRDR
FE
XFEAO
FEAO
FBAL ON
XGUP
Q705 2PB709A-Q/R
Q708 2PB709A-Q/R
TP701
CN702 VKN1345
D CN902
IC995 IR3C07N
Q893 2PB709A-Q/R
Q894 DTC124EK
TRD LMT O 4/6
Q887 DTC124EK
Q886 DTC124EK
IC851 BA6797FP BTL DRIVER
TRKG R
TRKG D
FOCS R
FOCS D
VTL1058
Q701 2PD601A-Q/R
Q702 2PB709A-Q/R
F704 VTF1078
FD+
FD-
IC971 (1/2) NJM2904M
IC971 (2/2)
IC972 (2/2)
IC972 (1/2) TC74HC4052AF
Q857 2PB709A-Q/R
IC981 (1/2) BA10393F
IC981 (2/2)
D981 DAN202K
D982 DAN202K
DVD IN
DVD OUT
TDR LMT O 4/6
O 4/6 LODPOS
XRST
GND
1/2SW
B1
B2
A
B4
B3
C
VREF (2.5V)
GND (RF)
RF
VCC
MPD
LD
VSHF
TILTLED
INNER
OUTER
SLDRF
SLDRR
EV+5V
POWER ON
+12V
SW3.3V
SW+5V

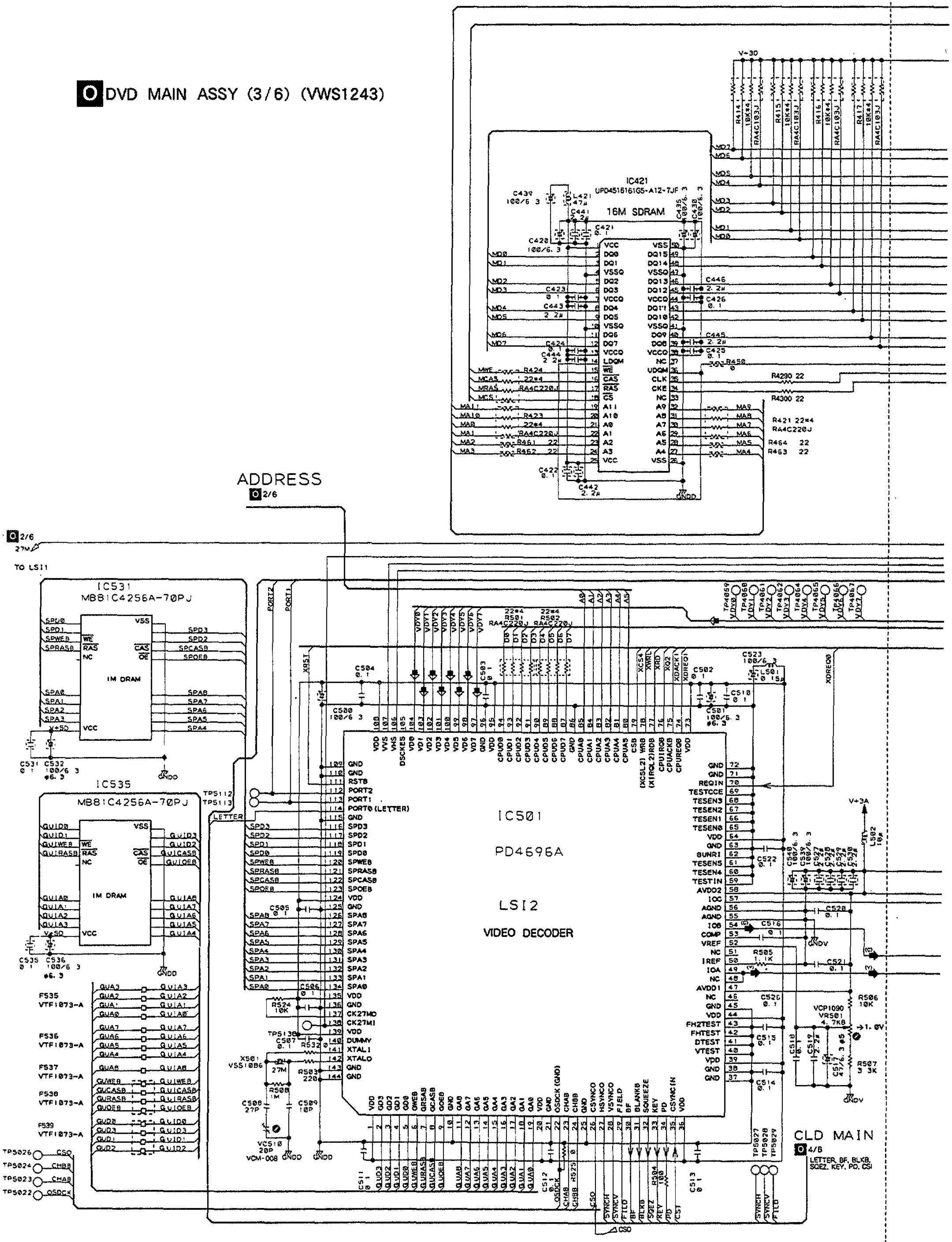

• SIGNAL ROUTE
: RF SIGNAL ROUTE
: FOCUS SERVO LOOP LINE
: TRACKING SERVO LOOP LINE
: SLIDER SERVO LOOP LINE
: ROM DATA SIGNAL ROUTE
O 2/6 DEMO
A/D CONVERTER
IC731 TLC5540INS
RFTP
RF MIRR
1 BEAM GAIN ADJUST
VR621 22KB VCP1094
IC621 (1/2) NJM2100M
IC621 (2/2) NJM2100M
IC231 (2/2) NJM2100M
ATBDRV
TOFF
TE
TZC
IC631 (2/2) BA10393F
IC631 (1/2)
IC732 (2/2) NJM2904M
IC732 (1/2)
ATC
APC
AFC
ASC (from Vchip)
DUTY50
IC751 (2/2) TLC272CPS
IC751 (1/2)
Adjust to 1.8 - 2V with DC.
TC74HCU04AF IC761 (6/6)
CLKVCO (for LSI1)
VCLK (for Vchip)
VCO Ajust
DVDXCD
TESTPIN
STATS0
STATS1
STATS2
BSYNC
RFTP
TE
FD-
RFO
GNDS
FE
VREF
GNDR
FD+
CN902 VKN1324
THLD
LDON
IC831 (1/2)
IC831 (2/2) NJM4580M
IC832 (4/4) TC74HC4066AF
IC832 (3/4)
IC832 (1/4) TC74HC4066AF
IC832 (2/4)
COUT
IC820 TC4W53F
LOCK
FOK
F JUMP
XLAT
DATA
SCLK/CLOK
XRST
DEFECT
Q814 2PB709A-Q/R
MIRR
IC801 CXD2545Q DIGITAL SERVO
1 SRON
2 SRDR
3 SFON
SENS 80
MUTE 79
SQCK 78
29 FE
30 VC
DA10 52
DA11 51
XDVD CD
SENS
SQCK
SQSO
EXCK
O 2/6 CDDO
SCOR
Non Connection
RFCK
M 2/3 CN208
CN271 S2B-PH-SM3
16M
GND
BCK
DATA
LRCK
CDBCK
CDDT
CDLR
CD DSP
O 2/6
DEF INT
IC815 TC4W53F
RFO
LDS ERR
IC791 (2/2)
IC791 (1/2) NJM2904M
FK+
FK-
IC781 (1/2) NJM2100M
IC781 (2/2)
SRDR0
XPLAY
XRST
Q772 DTC114EK
Q771 2PD601A
Q773 2PD601A-Q/R
F SHUNT
ATB ON
RFMIRR
Q811 DTC114EK
O 4/6

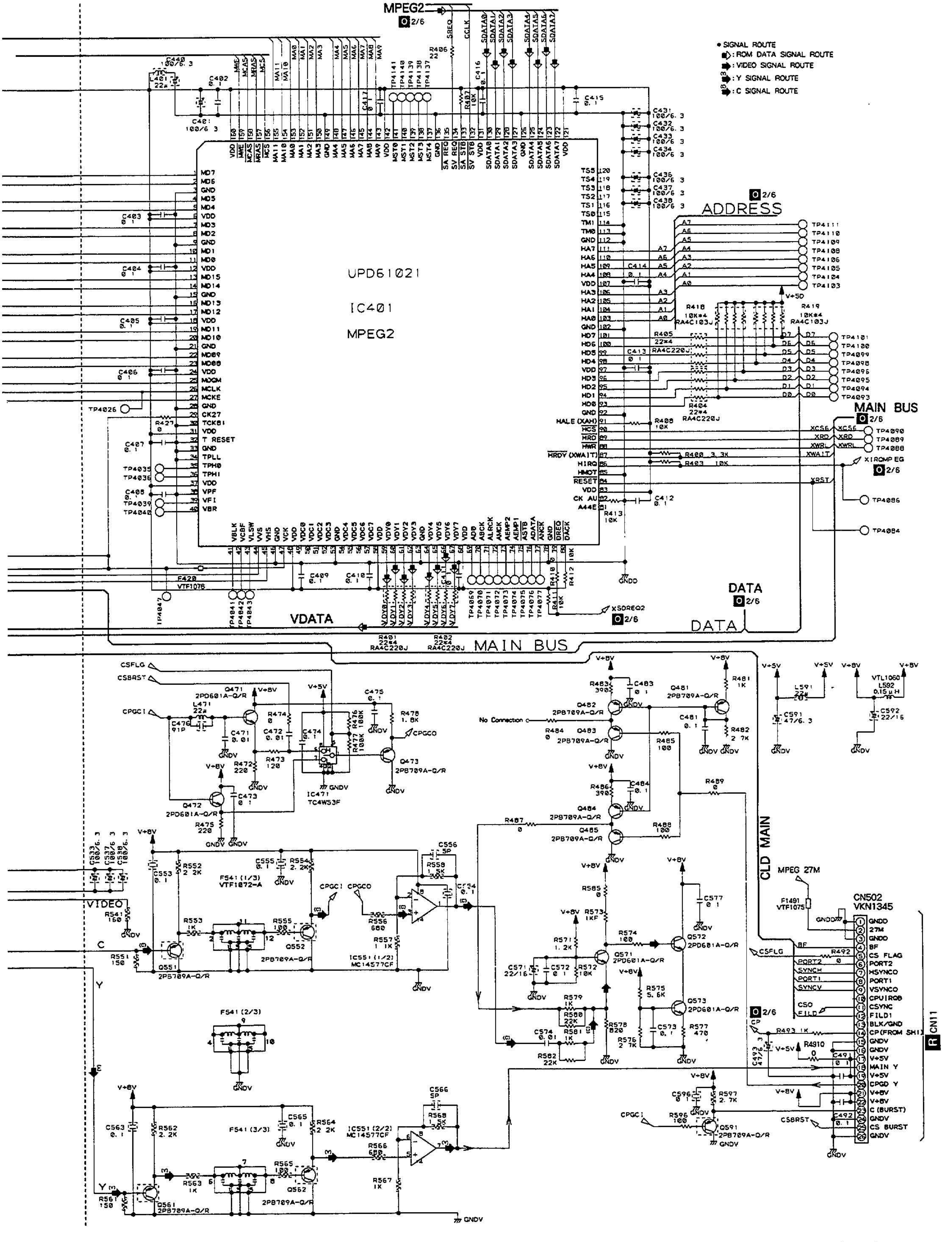
3.8 DVD MAIN ASSY (2/6)


DATA O 3/6 D0 - D7
O DVD MAIN ASSY (2/6) (VWS1243)
IC102
TC558128AJ-20
WORK 1MSRAM
IC1030
VYW1515
MBM29F400TA-70PF-FJ
PGM 4MFLASH MEMORY
ROM12V O 4/6
D101 RB501V-40-TR8
Q103 DTA114EK
Q104 DTC114EK
Q105 DTC114TK
IC104
PDK022A
LH534600BN-7
GUI 4M ROM
ADDRESS O 3/6 A0 - A7
MAIN BUS O 3/6
XCS6, XRD, XWRL, XWAIT, XRST, XDREQ0, XDREQ1, XDACK1, XO2, XCS4
O 4/6
SSCK.SEL IR, SSO, IR, CDGCS, XLT3, CDGM, DPSEL, HIB SEL
O 5/6
SSI, XLT2, XRST, SSO, SSCK
CN109 VKN1299-A
TXD
RXD
DTR
CTS
+5V
GND
NC
MAIN BUS
SYSTEM UCOM
IC101
HD6417032F20
SH-1
O 3/6 XIROMPEG
IC106 TC7SH32F
IC105 TC7SH02F
FMATT O 4/6
TP93 TP98 SHORT for TEST MODE ENTRY
ARL O 4/6 FROM AUDIO
CP O 3/6 FROM COPY GUARD BOARD
F147, F181 - F188: VTF1080
POWR ON O 1/6
X101 VSS1108 20MHz
Q101 DTC114TK
Q102 DTC114TK
V+5D
GNDD

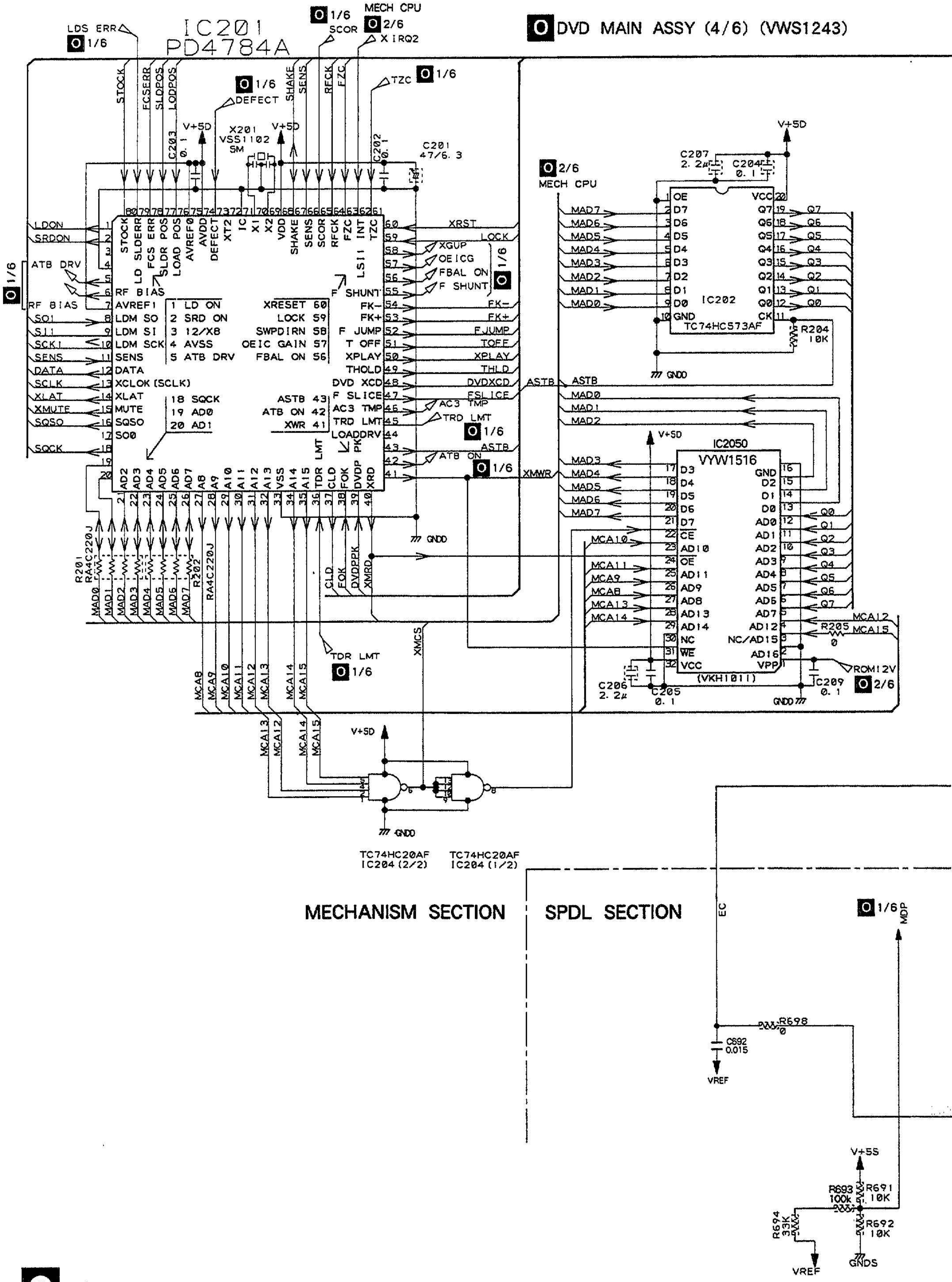

• SIGNAL ROUTE
⇨: AUDIO SIGNAL ROUTE
➡: ROM DATA SIGNAL ROUTE
DATA
ADDRESS
MAIN BUS
IC165
PD4795A
U-CHIP
1:VDD
2:D6
3:D7
75:VDD
74:XRST
73 DD7
72 DD0
23:SDATA0
24:XWR
25:VDD
53:DA4
52:DA3
51 VDD
4M DRAM
IC162
HM514800CJ-7
MPEG2
O 3/6
O 1/6
FROM LSI2
27M
No Connection
IC161
PD4695A
LSI-1
DEMO
LSYNC MONITOR OUTPUT
from MPEG2
TO LSI2
SERVO
DUTY50
CLKVCO from FTS
FROM LSI2
TO LSI2
MONITOR OUTPUT
SPINDLE
O 4/6
D. AUDIO
O 4/6, 5/6
MECH CPU
O 4/6
M 2/3 CN215
36M IN
FROM DAC BOARD
Non Connection
CN161
S2B-PH-SM3
CN101
VKN1385-A
K CN201
L101 - L104 : DTL1028
D110
EC10QS04
F199 VTF1077-A
STATS2
STATS1
STATS0
V+5D
V+5E
V12D
V+5R
GNDD
GNDR

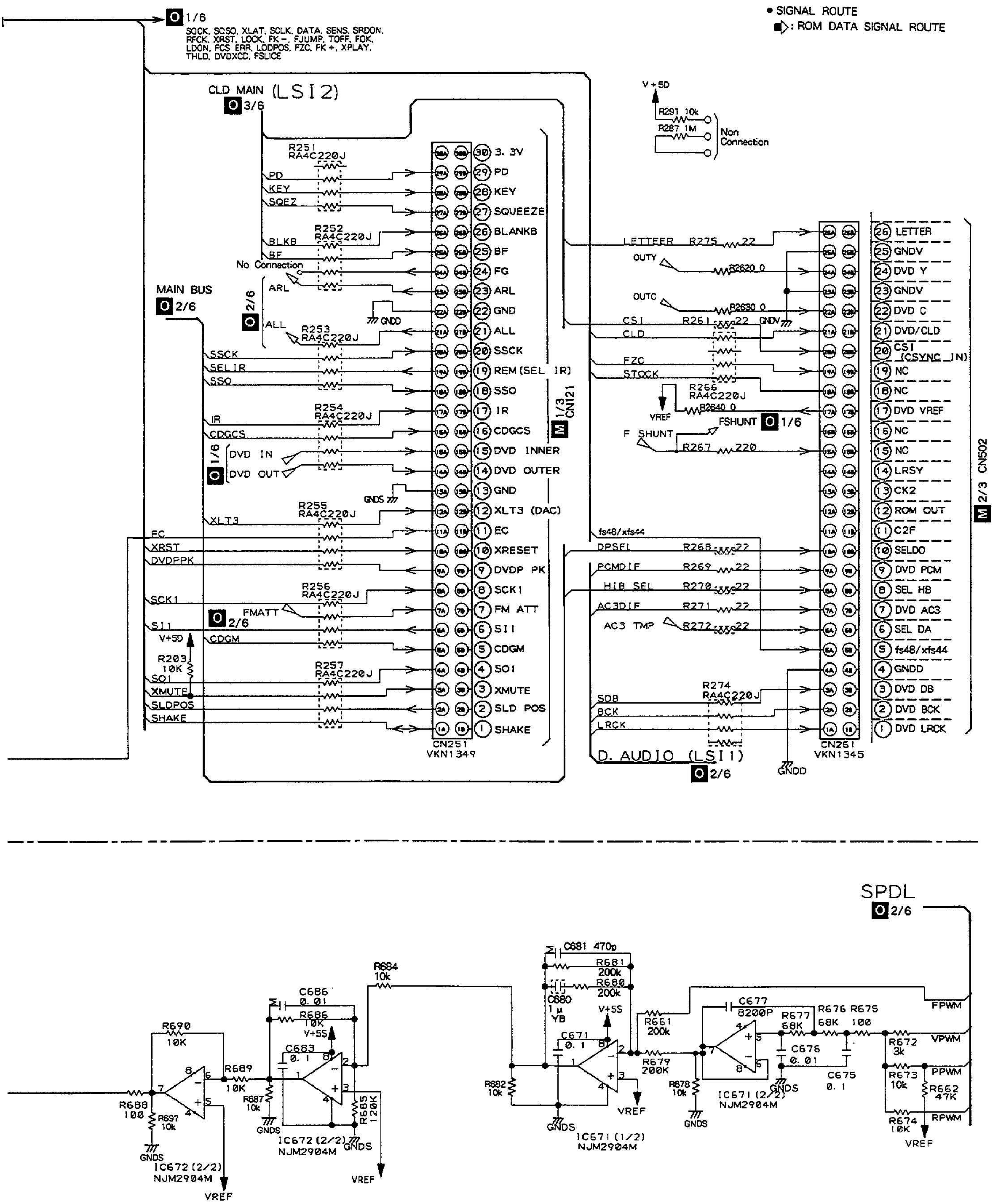
3.9 DVD MAIN ASSY (3/6)


O DVD MAIN ASSY (3/6) (VWS1243)
IC421
UPD4516161G5-A12-7JF
16M SDRAM
V+30
R414 10K×4 RA4C103J
R415 10K×4 RA4C103J
R416 10K×4 RA4C103J
R417 10K×4 RA4C103J
ADDRESS
O 2/6
27M
TO LSI1
IC531
MB81C4256A-70PJ
1M DRAM
IC535
MB81C4256A-70PJ
1M DRAM
F535 VTF1073-A
F536 VTF1073-A
F537 VTF1073-A
F538 VTF1073-A
F539 VTF1073-A
TP5026 CSO
TP5024 CHBB
TP5023 CHAB
TP5022 OSDCK
TPS112
TPS113
LETTER
PORT2
PORT1
IC501
PD4696A
LSI2
VIDEO DECODER
X501 VSS10B6 27M
VC510 20P VCM-008
VR501 VCP1090 4.7KB
→1.0V
V+3A
L502 10μ
CLD MAIN
O 4/6
LETTER, BF, BLKB, SQEZ, KEY, PD, CSI
TP5027
TP5028
TP5029
SYNCH
SYNCV
FILD
CSO
GNDD
GNDV

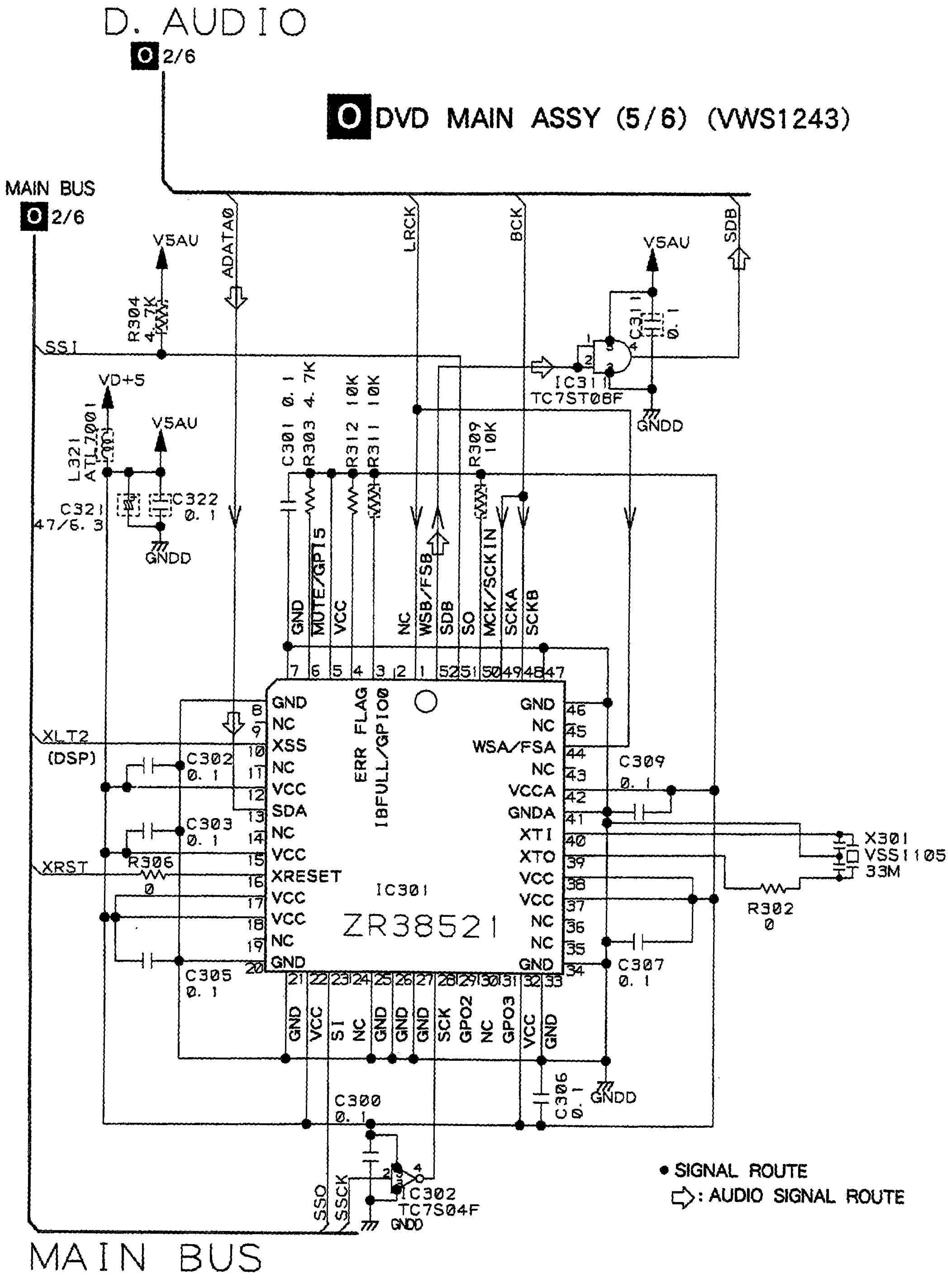

• SIGNAL ROUTE
: ROM DATA SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
: Y SIGNAL ROUTE
: C SIGNAL ROUTE
MPEG2
O 2/6
UPD61021
IC401
MPEG2
ADDRESS
MAIN BUS
DATA
VDATA
MAIN BUS
CLD MAIN
MPEG 27M
CN502
VKN1345
R CN11
VIDEO
C
Y
CSFLG
CSBRST
CPGC1
CPGC0
No Connection
IC471
TC4W53F
Q471 2PD601A-Q/R
Q472 2PD601A-Q/R
Q473 2PB709A-Q/R
Q481 2PB709A-Q/R
Q482 2PB709A-Q/R
Q483 2PB709A-Q/R
Q484 2PB709A-Q/R
Q485 2PB709A-Q/R
Q551 2PB709A-Q/R
Q552 2PB709A-Q/R
Q561 2PB709A-Q/R
Q562 2PB709A-Q/R
Q571 2PD601A-Q/R
Q572 2PD601A-Q/R
Q573 2PD601A-Q/R
Q591 2PB709A-Q/R
FS41 (1/3) VTF1072-A
FS41 (2/3)
FS41 (3/3)
IC551 (1/2) MC14577CF
IC551 (2/2) MC14577CF
F428 VTF1076
F1491 VTF1075
L592 VTL1060 0.15μH
XSOREQ2
XIRQMPEG
GNDD
27M
GNDD
BF
CS FLAG
PORT2
HSYNCO
PORT1
VSYNCO
CPU IRQB
CSYNC
FILD1
BLK/GND
CP(FROM SH1)
GNDV
GNDV
V+5V
MAIN Y
V+5V
CPGD Y
V+8V
V+8V
C (BURST)
GNDV
CS BURST
GNDV
V+8V
V+5V
GNDV

3.10 DVD MAIN ASSY (4/6)


O DVD MAIN ASSY (4/6) (VWS1243)
IC201
PD4784A
LDS ERR
O 1/6
O 1/6
SCOR
MECH CPU
O 2/6
X IRQ2
TZC
O 1/6
O 1/6
DEFECT
STOCK
FCSERR
SLDPOS
LODPOS
SHAKE
SENS
RFCK
FZC
V+5D
X201
VSS1102
SM
C203
0.1
C202
0.1
C201
47/6.3
LDON
SRDON
ATB DRV
RF BIAS
SO1
SI1
SCK1
SENS
DATA
SCLK
XLAT
XMUTE
SQSO
SQCK
STOCK
LD SLDERR
FCS ERR
SLDR POS
LOAD POS
AVREF0
AVDD
DEFECT
XT2
IC
X1
X2
VDD
SHAKE
SENS
SCOR
RFCK
FZC
LSI1 INT
TZC
RF BIAS
AVREF1
LDM SO
LDM SI
LDM SCK
SENS
DATA
XCLOK (SCLK)
XLAT
MUTE
SQSO
SQ0
1 LD ON
2 SRD ON
3 12/X8
4 AVSS
5 ATB DRV
18 SQCK
19 AD0
20 AD1
XRESET 60
LOCK 59
SWPDIRN 58
OEIC GAIN 57
FBAL ON 56
ASTB 43
ATB ON 42
XWR 41
F SHUNT
FK−
FK+
F JUMP
T OFF
XPLAY
THOLD
DVD XCD
F SLICE
AC3 TMP
TRD LMT
LOADDRV
LMT
PK
AD2
AD3
AD4
AD5
AD6
AD7
A8
A9
A10
A11
A12
A13
VSS
A14
A15
TDR
CLD
FOK
DVDP
XRD
XRST
LOCK
XGUP
OEICG
FBAL ON
F SHUNT
1/6
O
FK−
FK+
FJUMP
TOFF
XPLAY
THLD
DVDXCD
FSLICE
AC3 TMP
TRD LMT
O 1/6
ASTB
ATB ON
O 1/6
XMWR
GNDD
R201
RA4C220J
R202
RA4C220J
MAD0
MAD1
MAD2
MAD3
MAD4
MAD5
MAD6
MAD7
CLD
FOK
DVDPPK
XMRD
XMCS
TDR LMT
O 1/6
MCA8
MCA9
MCA10
MCA11
MCA12
MCA13
MCA14
MCA15
O 2/6
MECH CPU
C207
2.2μ
C204
0.1
V+5D
OE
D7
D6
D5
D4
D3
D2
D1
D0
GND
VCC
Q7
Q6
Q5
Q4
Q3
Q2
Q1
Q0
CK
IC202
TC74HC573AF
R204
10K
GNDD
ASTB
V+5D
IC2050
VYW1516
D3
D4
D5
D6
D7
CE
AD10
OE
AD11
AD9
AD8
AD13
AD14
NC
WE
VCC
GND
D2
D1
D0
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD12
NC/AD15
AD16
VPP
(VKH1011)
MCA12
R205
0
MCA15
ROM12V
O 2/6
C206
2.2μ
C205
0.1
C209
0.1
GNDD
V+5D
GNDD
TC74HC20AF
IC204 (2/2)
TC74HC20AF
IC204 (1/2)
MECHANISM SECTION
SPDL SECTION
EC
O 1/6
MDP
R698
0
C692
0.015
VREF
V+5S
R693
100k
R691
10K
R694
33K
R692
10K
VREF
GNDS


• SIGNAL ROUTE
: ROM DATA SIGNAL ROUTE
O 1/6
SQCK, SQSO, XLAT, SCLK, DATA, SENS, SRDON, RFCK, XRST, LOCK, FK –, FJUMP, TOFF, FOK, LDON, FCS ERR, LODPOS, FZC, FK +, XPLAY, THLD, DVDXCD, FSLICE
CLD MAIN (LSI2)
O 3/6
V+5D
R291 10k
R287 1M
Non Connection
R251 RA4C220J
PD
KEY
SQEZ
R252 RA4C220J
BLKB
BF
No Connection
ARL
ALL
O 2/6
R253 RA4C220J
MAIN BUS
O 2/6
GNDD
SSCK
SELIR
SSO
R254 RA4C220J
IR
CDGCS
O 1/6
DVD IN
DVD OUT
GNDS
R255 RA4C220J
XLT3
EC
XRST
DVDPPK
R256 RA4C220J
SCK1
FMATT
O 2/6
SI1
V+5D
CDGM
R203 10K
R257 RA4C220J
SOI
XMUTE
SLDPOS
SHAKE
30 3.3V
29 PD
28 KEY
27 SQUEEZE
26 BLANKB
25 BF
24 FG
23 ARL
22 GND
21 ALL
20 SSCK
19 REM(SEL IR)
18 SSO
17 IR
16 CDGCS
15 DVD INNER
14 DVD OUTER
13 GND
12 XLT3 (DAC)
11 EC
10 XRESET
9 DVDP PK
8 SCK1
7 FM ATT
6 SI1
5 CDGM
4 SOI
3 XMUTE
2 SLD POS
1 SHAKE
CN251 VKN1349
M 1/3 CN121
LETTEER
R275 22
OUTY
R2620 0
OUTC
R2630 0
CSI
R261 22
GNDV
CLD
FZC
STOCK
R266 RA4C220J
VREF
R2640 0
FSHUNT
O 1/6
F SHUNT
R267 220
fs48/xfs44
DPSEL
R268 22
PCMDIF
R269 22
HIB SEL
R270 22
AC3DIF
R271 22
AC3 TMP
R272 22
R274 RA4C220J
SDB
BCK
LRCK
D. AUDIO (LSI1)
O 2/6
GNDD
CN261 VKN1345
26 LETTER
25 GNDV
24 DVD Y
23 GNDV
22 DVD C
21 DVD/CLD
20 CSI (CSYNC IN)
19 NC
18 NC
17 DVD VREF
16 NC
15 NC
14 LRSY
13 CK2
12 ROM OUT
11 C2F
10 SELDO
9 DVD PCM
8 SEL HB
7 DVD AC3
6 SEL DA
5 fs48/xfs44
4 GNDD
3 DVD DB
2 DVD BCK
1 DVD LRCK
M 2/3 CN502
SPDL
O 2/6
C681 470p
R681 200k
R680 200k
C680 1μ YB
V+5S
C671 0.1
R661 200k
C677 8200P
R677 68K
R676 68K
R675 100
FPWM
VPWM
R684 10k
C686 0.01
R686 10K
V+5S
C683 0.1
R690 10K
R689 10K
R688 100
R697 10k
GNDS
IC672 (2/2) NJM2904M
VREF
R687 10k
GNDS
IC672 (2/2) NJM2904M
R685 120K
GNDS
VREF
R682 10k
GNDS
IC671 (1/2) NJM2904M
VREF
R679 200K
R678 10k
GNDS
IC671 (2/2) NJM2904M
GNDS
C676 0.01
C675 0.1
R672 3k
R673 10k
PPWM
R662 47K
R674 10K
RPWM
VREF

3.11 DVD MAIN ASSY (5/6)

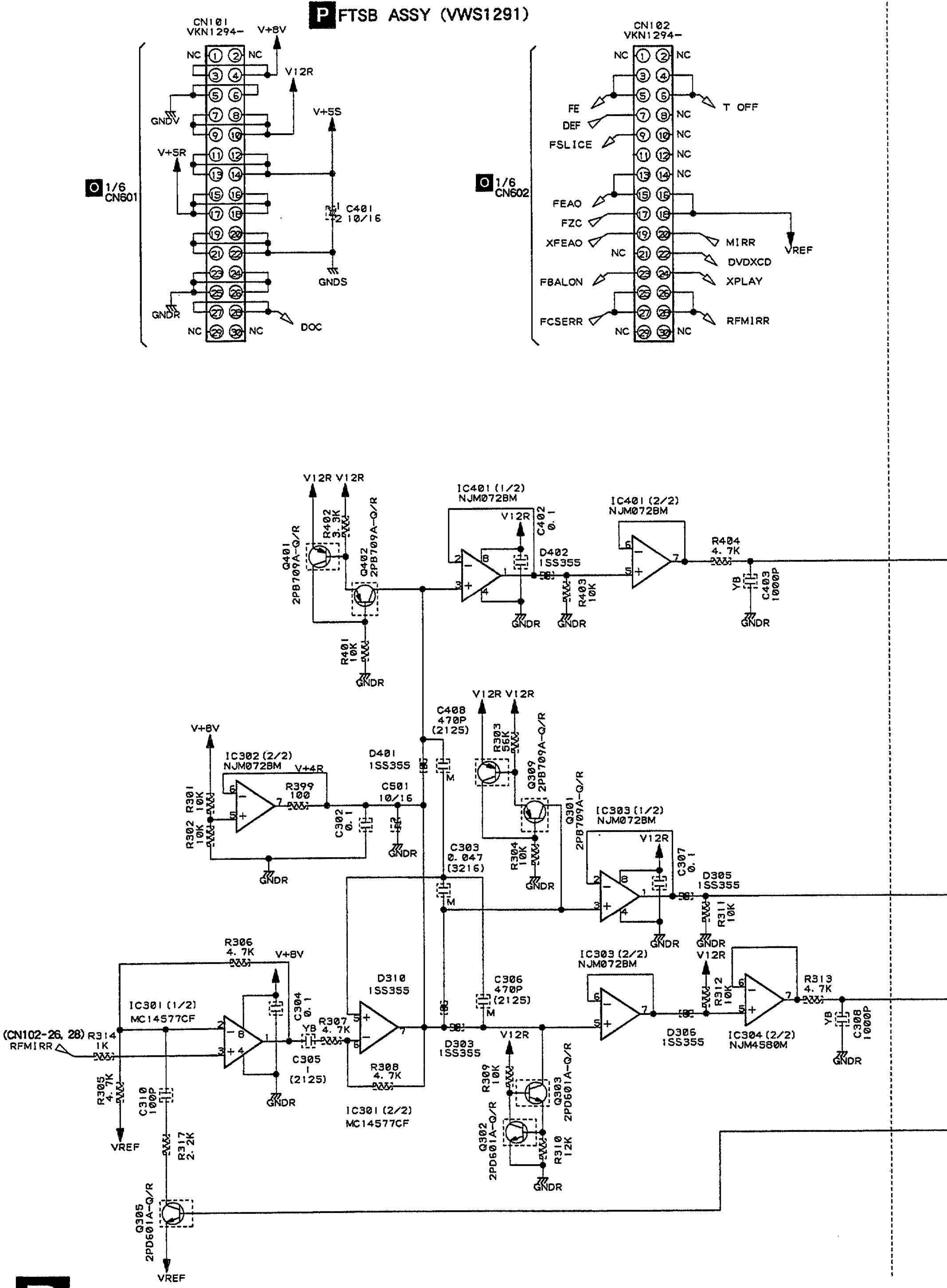

D. AUDIO
O 2/6
O DVD MAIN ASSY (5/6) (VWS1243)
MAIN BUS
O 2/6
V5AU
ADATA0
LRCK
BCK
SDB
R304 4.7K
SSI
IC311 TC7ST08F
C311 0.1
GNDD
VD+5
L321 ATL7001
C321 47/6.3
C322 0.1
C301 0.1
R303 4.7K
R312 10K
R311 10K
R309 10K
GND
MUTE/GPI5
VCC
NC
WSB/FSB
SO
MCK/SCKIN
SCKA
SCKB
XLT2
(DSP)
C302 0.1
C303 0.1
XRST
R306 0
C305 0.1
XSS
SDA
XRESET
ERR FLAG
IBFULL/GPIO0
IC301
ZR38521
WSA/FSA
VCCA
GNDA
XTI
XTO
C309 0.1
X301 VSS1105 33M
R302 0
C307 0.1
SI
SCK
GPO2
GPO3
C306 0.1
C300 0.1
IC302 TC7S04F
SSO
SSCK
MAIN BUS

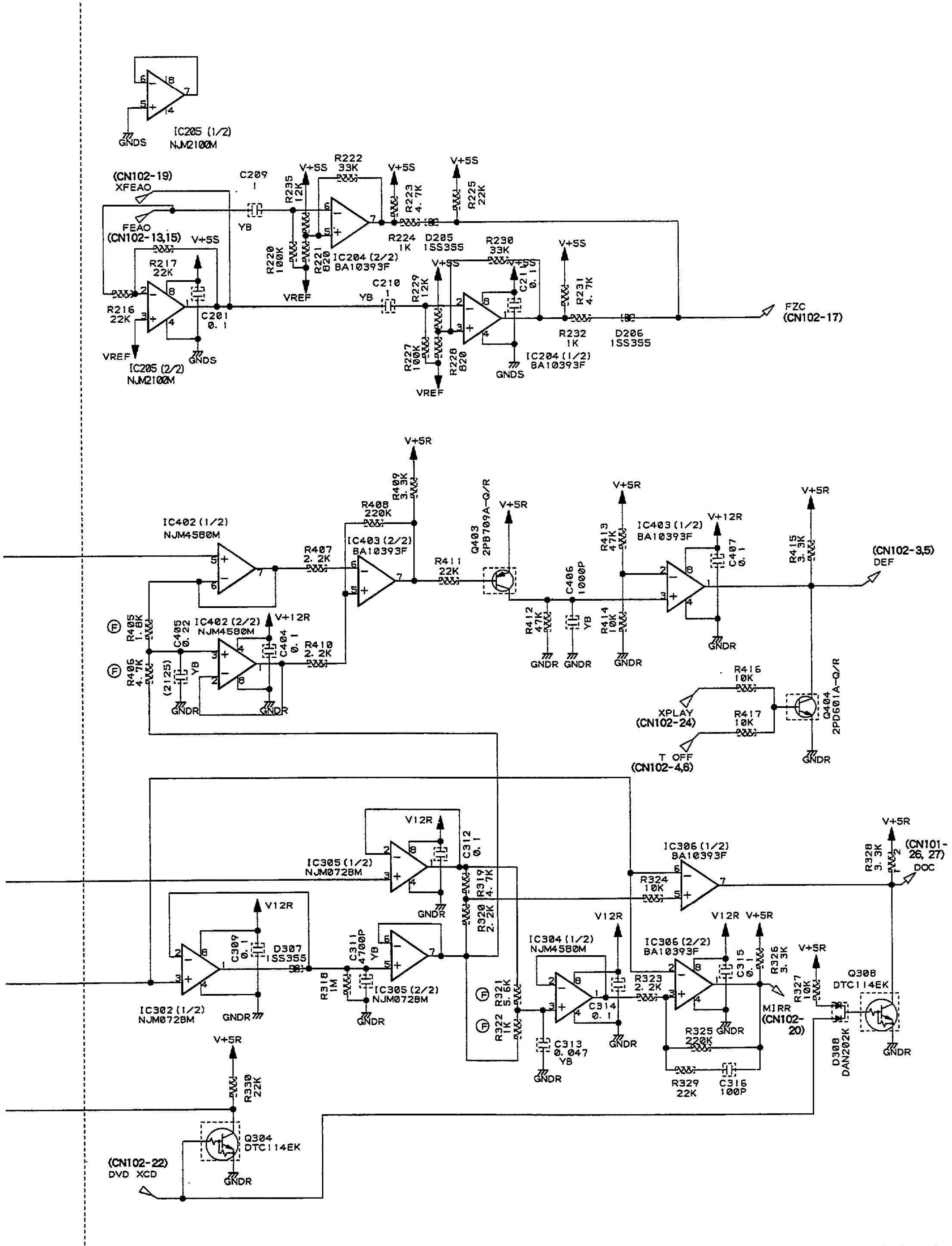
● SIGNAL ROUTE
⇨: AUDIO SIGNAL ROUTE

3.12 DVD MAIN ASSY (6/6)

0 6/6 DVD MAIN ASSY (6/6) (VIDEO CD SECTION) is not used on this model.

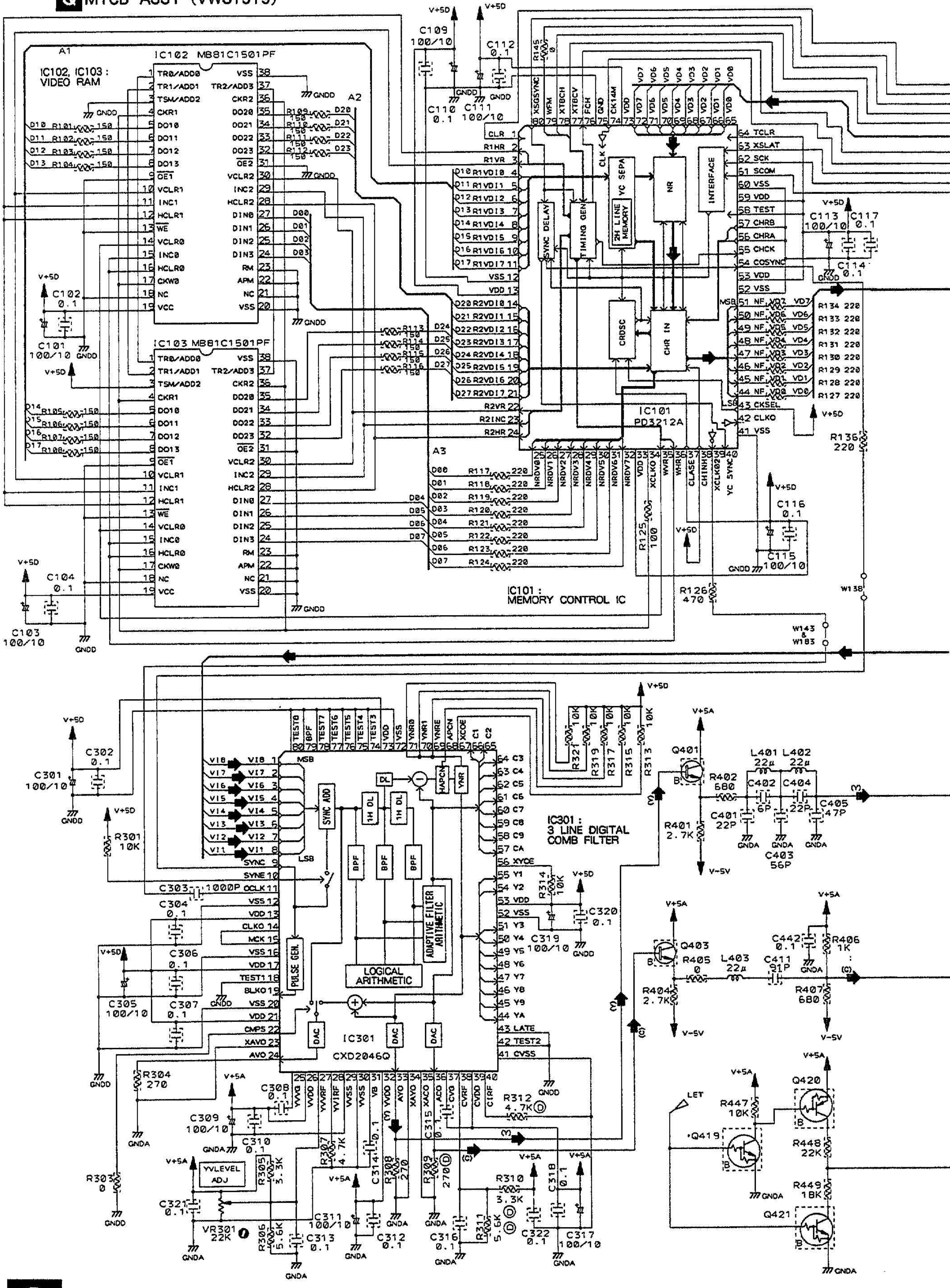
3.13 FTSB ASSY

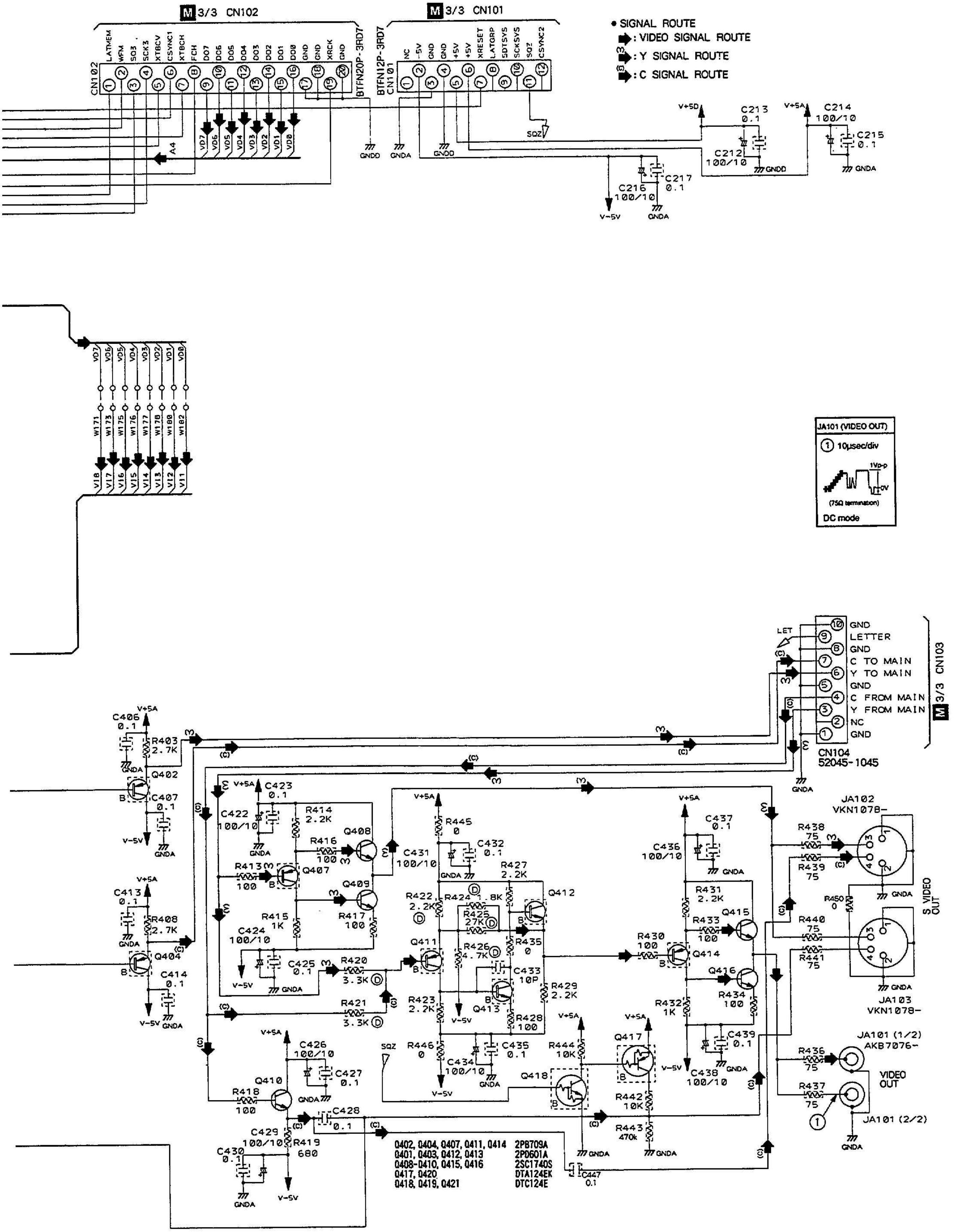

P FTSB ASSY (VWS1291)
CN101
VKN1294-
V+8V
V12R
V+5S
V+5R
GNDV
GNDS
GNDR
DOC
NC
C401
10/16
O 1/6
CN601
CN102
VKN1294-
FE
DEF
FSLICE
T OFF
FEAO
FZC
XFEAO
FBALON
FCSERR
MIRR
DVDXCD
XPLAY
RFMIRR
VREF
O 1/6
CN602
IC401 (1/2)
NJM072BM
IC401 (2/2)
NJM072BM
Q401
2PB709A-Q/R
Q402
2PB709A-Q/R
R402
3.3K
R401
10K
C402
0.1
D402
1SS355
R403
10K
R404
4.7K
C403
1000P
YB
C408
470P
(2125)
IC302 (2/2)
NJM072BM
V+4R
R399
100
R301
10K
R302
10K
C302
0.1
D401
1SS355
C501
10/16
R303
56K
Q309
2PB709A-Q/R
Q301
2PB709A-Q/R
R304
10K
C303
0.047
(3216)
IC303 (1/2)
NJM072BM
C307
0.1
D305
1SS355
R311
10K
R306
4.7K
IC301 (1/2)
MC14577CF
(CN102-26, 28)
RFMIRR
R314
1K
R305
4.7K
C310
100P
R317
2.2K
Q305
2PD601A-Q/R
C304
0.1
R307
4.7K
C305
1
(2125)
D310
1SS355
R308
4.7K
IC301 (2/2)
MC14577CF
C306
470P
(2125)
D303
1SS355
R309
10K
Q303
2PD601A-Q/R
Q302
2PD601A-Q/R
R310
12K
IC303 (2/2)
NJM072BM
D306
1SS355
R312
10K
IC304 (2/2)
NJM4580M
R313
4.7K
C308
1000P
M


IC205 (1/2)
NJM2100M
GNDS
(CN102-19)
XFEAO
FEAO
(CN102-13,15)
C209
1
YB
R235
12K
V+5S
R222
33K
R223
4.7K
R225
22K
R220
100K
R221
820
IC204 (2/2)
BA10393F
R224
1K
D205
1SS355
R217
22K
R216
22K
C201
0.1
VREF
IC205 (2/2)
NJM2100M
C210
1
R229
12K
R230
33K
C211
0.1
R231
4.7K
R232
1K
D206
1SS355
FZC
(CN102-17)
R227
100K
R228
820
IC204 (1/2)
BA10393F
V+5R
R409
3.3K
R408
220K
Q403
2PB709A-Q/R
R413
47K
IC403 (1/2)
BA10393F
V+12R
C407
0.1
R415
3.3K
(CN102-3,5)
DEF
IC402 (1/2)
NJM4580M
R407
2.2K
IC403 (2/2)
BA10393F
R411
22K
C406
1000P
R412
47K
R414
10K
GNDR
R405
1.8K
C405
0.22
(2125)
IC402 (2/2)
NJM4580M
C404
0.1
R410
2.2K
R406
4.7K
R416
10K
XPLAY
(CN102-24)
R417
10K
Q404
2PD601A-Q/R
T OFF
(CN102-4,6)
V12R
IC305 (1/2)
NJM072BM
C312
0.1
R319
4.7K
R320
2.2K
IC306 (1/2)
BA10393F
R324
10K
R328
3.3K
(CN101-26, 27)
DOC
C309
0.1
D307
1SS355
C311
4700P
R318
1M
IC305 (2/2)
NJM072BM
IC302 (1/2)
NJM072BM
R321
5.6K
R322
1K
IC304 (1/2)
NJM4580M
C314
0.1
C313
0.047
R323
2.2K
IC306 (2/2)
BA10393F
C315
0.1
R326
3.3K
MIRR
(CN102-20)
R327
10K
Q308
DTC114EK
D308
DAN202K
R325
220K
R329
22K
C316
100P
R330
22K
Q304
DTC114EK
(CN102-22)
DVD XCD

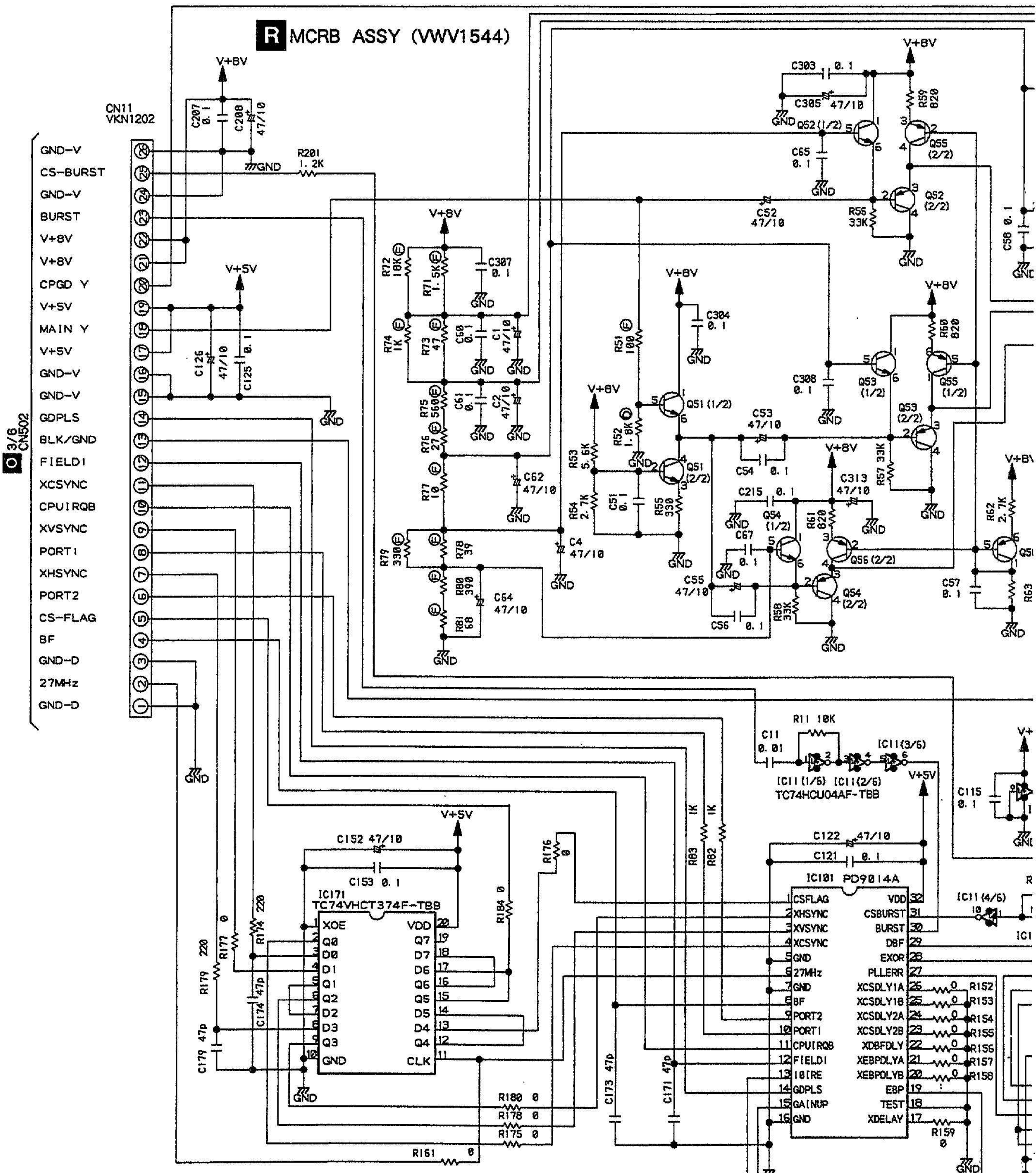
3.14 MYCB ASSY

Q MYCB ASSY (VWS1519)

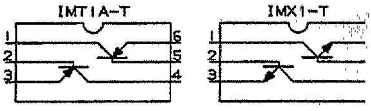

A1
A2
A3
IC102, IC103 :
VIDEO RAM
IC102 MB81C1501PF
IC103 MB81C1501PF
IC101
PD3212A
IC101 :
MEMORY CONTROL IC
SYNC DELAY
TIMING GEN
2H LINE MEMORY
YC SEPA
NR
INTERFACE
CRDSC
CHR IN
IC301 :
3 LINE DIGITAL
COMB FILTER
IC301
CXD2046Q
SYNC ADD
1H DL
BPF
DL
HAPCN
YNR
ADAPTIVE FILTER ARITHMETIC
LOGICAL ARITHMETIC
PULSE GEN.
DAC
MSB
LSB
C101 100/10
C102 0.1
C103 100/10
C104 0.1
C109 100/10
C110 0.1
C111 100/10
C112 0.1
C113 100/10
C114 0.1
C115 100/10
C116 0.1
C117 0.1
R101 150
R102 150
R103 150
R104 150
R105 150
R106 150
R107 150
R108 150
R109 150
R110 150
R111 150
R112 150
R113 150
R114 150
R115 150
R116 150
R117 220
R118 220
R119 220
R120 220
R121 220
R122 220
R123 220
R124 220
R125 100
R126 470
R127 220
R128 220
R129 220
R130 220
R131 220
R132 220
R133 220
R134 220
R136 220
R145 0
W138
W143 & W183
C301 100/10
C302 0.1
C303 1000P
C304 0.1
C305 100/10
C306 0.1
C307 0.1
C308 0.1
C309 100/10
C310 0.1
C311 100/10
C312 0.1
C313 0.1
C314 0.1
C315 0.1
C316 0.1
C317 100/10
C318 0.1
C319 100/10
C320 0.1
C321 0.1
C322 0.1
R301 10K
R303 0
R304 270
R305 3.3K
R306 5.6K
R307 4.7K
R308 270
R309 270
R310 3.3K
R311 5.6K
R312 4.7K
R313 10K
R314 10K
R315 10K
R317 10K
R319 10K
R321 10K
YVLEVEL ADJ
VR301 22K
Q401
R401 2.7K
R402 680
L401 22μ
L402 22μ
C401 22P
C402 6P
C403 56P
C404 22P
C405 47P
Q403
R404 2.7K
R405 0
L403 22μ
C411 91P
R406 1K
R407 680
C442 0.1
Q419
Q420
Q421
R447 10K
R448 22K
R449 18K
LET
V+5D
V+5A
V-5V
GNDD
GNDA

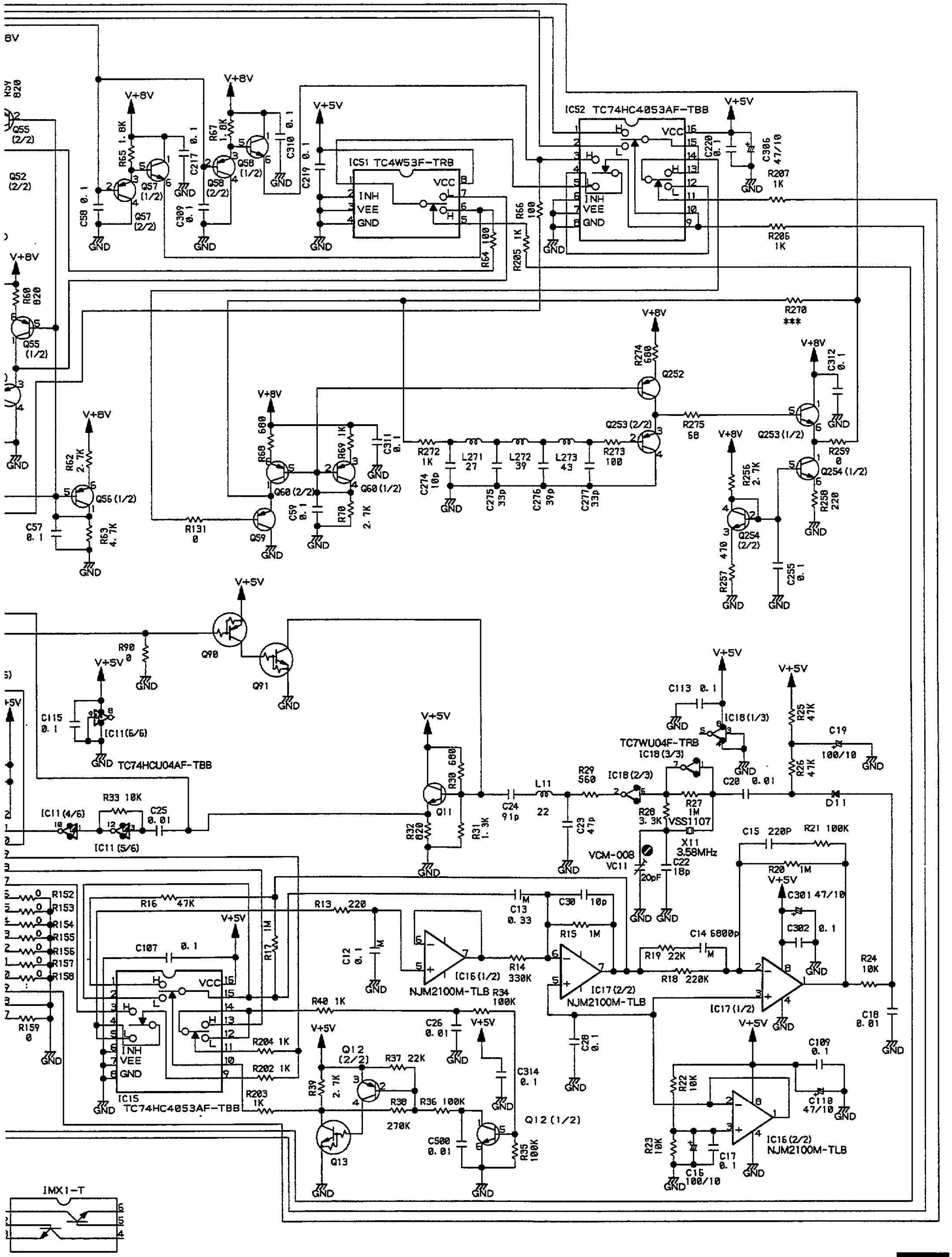

M 3/3 CN102
M 3/3 CN101
• SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
: Y SIGNAL ROUTE
: C SIGNAL ROUTE
CN102
LATMEM
WFM
SQ3
SCK3
XTBCV
CSYNC1
XTBCH
FCH
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DO0
GND
GND
XRCK
GND
BTFN20P-3RD7
BTFN12P-3RD7
CN101
NC
-5V
GND
GND
+5V
+5V
XRESET
LATGRP
SDTSVS
SCKSVS
SQZ
CSYNC2
VD7
VD6
VD5
VD4
VD3
VD2
VD1
VD0
A4
GNDD
GNDA
SQZ
V+5D
V+5A
C213
0.1
C214
100/10
C215
0.1
C212
100/10
C216
100/10
C217
0.1
V-5V
W171
W173
W175
W176
W177
W178
W180
W182
VI8
VI7
VI6
VI5
VI4
VI3
VI2
VI1
JA101 (VIDEO OUT)
① 10µsec/div
1Vp-p
0V
(75Ω termination)
DC mode
LET
CN104
52045-1045
GND
LETTER
GND
C TO MAIN
Y TO MAIN
GND
C FROM MAIN
Y FROM MAIN
NC
GND
M 3/3 CN103
C406
0.1
R403
2.7K
Q402
C407
0.1
C413
0.1
R408
2.7K
Q404
C414
0.1
C423
0.1
C422
100/10
R414
2.2K
R416
100
Q408
R413
100
Q407
Q409
R415
1K
R417
100
C424
100/10
C425
0.1
R420
3.3K
R421
3.3K
C431
100/10
R445
0
C432
0.1
R427
2.2K
R422
2.2K
R424
1.8K
R425
27K
R426
4.7K
Q412
Q411
R435
0
C433
10P
Q413
R429
2.2K
R423
2.2K
R428
100
R446
0
C434
100/10
C435
0.1
Q410
R418
100
C426
100/10
C427
0.1
C428
0.1
C429
100/10
R419
680
C430
0.1
SQZ
R444
10K
Q417
Q418
R442
10K
R443
470k
C447
0.1
C436
100/10
C437
0.1
R431
2.2K
Q415
R433
100
R430
100
Q414
Q416
R434
100
R432
1K
C439
0.1
C438
100/10
JA102
VKN1078-
R438
75
R439
75
R450
0
R440
75
R441
75
JA103
VKN1078-
S VIDEO OUT
JA101 (1/2)
AKB7076-
R436
75
R437
75
VIDEO OUT
JA101 (2/2)
Q402, Q404, Q407, Q411, Q414 2PB709A
Q401, Q403, Q412, Q413 2PD601A
Q408-Q410, Q415, Q416 2SC1740S
Q417, Q420 DTA124EK
Q418, Q419, Q421 DTC124E

3.15 MCRB ASSY


R MCRB ASSY (VWV1544)
CN11 VKN1202
O 3/6 CN502
GND-V
CS-BURST
GND-V
BURST
V+8V
V+8V
CPGD Y
V+5V
MAIN Y
V+5V
GND-V
GND-V
GDPLS
BLK/GND
FIELD1
XCSYNC
CPUIRQB
XVSYNC
PORT1
XHSYNC
PORT2
CS-FLAG
BF
GND-D
27MHz
GND-D
V+8V
C207 0.1
C208 47/10
R201 1.2K
GND
V+5V
C126 47/10
C125 0.1
R72 18K
R71 1.5K
C307 0.1
R74 1K
R73 47
C60 0.1
C1 47/10
R75 560
C61 0.1
C2 47/10
R76 27
C62 47/10
R77 10
R79 330
R78 39
C4 47/10
R80 390
R81 68
C64 47/10
C303 0.1
C305 47/10
Q52 (1/2)
C65 0.1
R59 820
Q55 (2/2)
C52 47/10
R56 33K
Q52 (2/2)
C58 0.1
C304 0.1
R51 100
R60 820
Q53 (1/2)
Q55 (1/2)
C308 0.1
Q51 (1/2)
R52 1.8K
R53 5.6K
C53 47/10
Q53 (2/2)
Q51 (2/2)
C54 0.1
R57 33K
R54 2.7K
C51 0.1
R55 330
C215 0.1
C313 47/10
Q54 (1/2)
C67 0.1
R61 820
Q56 (2/2)
R62 2.7K
C55 47/10
Q54 (2/2)
C56 0.1
R58 33K
C57 0.1
R63
R11 10K
C11 0.01
IC11 (1/6)
IC11 (2/6)
IC11 (3/6)
TC74HCU04AF-TBB
C115 0.1
V+5V
R83 1K
R82 1K
C122 47/10
C121 0.1
IC101 PD9014A
CSFLAG
XHSYNC
XVSYNC
XCSYNC
GND
27MHz
GND
BF
PORT2
PORT1
CPUIRQB
FIELD1
10IRE
GDPLS
GAINUP
GND
VDD
CSBURST
BURST
DBF
EXOR
PLLERR
XCSDLY1A
XCSDLY1B
XCSDLY2A
XCSDLY2B
XDBFDLY
XEBPDLYA
XEBPDLYB
EBP
TEST
XDELAY
R152 0
R153 0
R154 0
R155 0
R156 0
R157 0
R158 0
R159 0
IC11 (4/6)
C152 47/10
C153 0.1
IC171 TC74VHCT374F-TBB
XOE
Q0
D0
D1
Q1
Q2
D2
D3
Q3
GND
VDD
Q7
D7
D6
Q6
Q5
D5
D4
Q4
CLK
R176 0
R184 0
R174 220
R177 0
R179 220
C174 47p
C179 47p
C173 47p
C171 47p
R180 0
R178 0
R175 0
R161 0

Q252, Q59	2PB709A
Q11	2PD601A
Q13	DTC124EK
Q55, Q56, Q60	IMT1A
Q254, Q51	IMX1
Q12, Q253, Q52-Q54, Q57, Q58	IMZ1A
D11	SVC201SPA


IMT1A-T
IMX1-T
1
2
3
6
5
4


V+8V
R59 820
Q55 (2/2)
Q52 (2/2)
V+8V
R65 1.8K
Q57 (1/2)
C217 0.1
Q57 (2/2)
C58 0.1
C309 0.1
V+8V
R67 1.8K
Q58 (1/2)
Q58 (2/2)
C310 0.1
V+5V
C219 0.1
IC51 TC4W53F-TRB
INH
VEE
GND
VCC
R64 100
R66 100
R205 1K
IC52 TC74HC4053AF-TBB
INH
VEE
GND
VCC
V+5V
C220 0.1
C306 47/10
R207 1K
R206 1K
V+8V
R60 820
Q55 (1/2)
R270
***
V+8V
R274 680
Q252
V+8V
C312 0.1
Q253 (2/2)
R275 68
Q253 (1/2)
R259 0
V+8V
R62 2.7K
Q56 (1/2)
C57 0.1
R63 4.7K
V+8V
R68 680
R69 1K
C311 0.1
Q60 (2/2)
Q60 (1/2)
R70 2.7K
C59 0.1
R131 0
Q59
R272 1K
L271 27
L272 39
L273 43
R273 100
C274 10p
C275 33p
C276 39p
C277 33p
V+8V
R256 2.7K
Q254 (1/2)
R258 220
Q254 (2/2)
R257 470
C255 0.1
V+5V
R90 0
Q90
Q91
V+5V
C115 0.1
IC11 (6/6)
TC74HCU04AF-TBB
V+5V
C113 0.1
IC18 (1/3)
TC7WU04F-TRB
IC18 (3/3)
V+5V
R25 47K
C19 100/10
R26 47K
V+5V
R30 680
Q11
R32 820
R31 1.3K
C24 91p
L11 22
C23 47p
R29 560
IC18 (2/3)
R28 3.3K
R27 1M
VSS1107
X11 3.58MHz
VCM-008 VC11 20pF
C22 18p
C20 0.01
D11
IC11 (4/6)
R33 10K
IC11 (5/6)
C25 0.01
C15 220P
R21 100K
R20 1M
V+5V
C301 47/10
C302 0.1
R152
R153
R154
R155
R156
R157
R158
R159 0
R16 47K
R13 220
C13 0.33
C30 10p
R15 1M
C14 6800p
R19 22K
R18 220K
R17 1M
C107 0.1
V+5V
C12 0.1
IC16 (1/2)
NJM2100M-TLB
R14 330K
R34 100K
IC17 (2/2)
NJM2100M-TLB
C28 0.1
IC17 (1/2)
R24 10K
C18 0.01
IC15 TC74HC4053AF-TBB
R40 1K
C26 0.01
V+5V
C314 0.1
R204 1K
R202 1K
R203 1K
V+5V
Q12 (2/2)
R37 22K
R39 2.7K
R38 270K
R36 100K
Q12 (1/2)
C500 0.01
R35 100K
Q13
V+5V
C109 0.1
R22 10K
C110 47/10
R23 10K
C16 100/10
C17 0.1
IC16 (2/2)
NJM2100M-TLB
IMX1-T
GND

R

• WAVEFORMS AND VOLTAGE

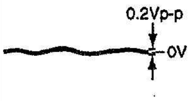
Note : (No.) in the table correspond to the pin number.

Measurement condition : In case when (D.audio) is written, at time when disc that has digital audio recording is played.

M CLD MAIN ASSY

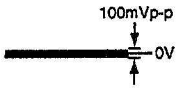
IC801 (LA9425)

⑨ 10msec/div



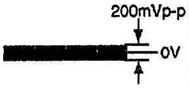
DC mode

⑳ 5msec/div



DC mode

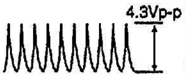
㉒ 5msec/div



DC mode

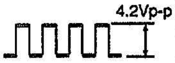
IC802 (LC78681KE)

② 0.1μsec/div



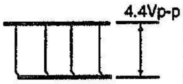
AC mode (D.audio)

㉝ 10μsec/div



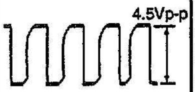
AC mode (D.audio)

㉟ 0.2μsec/div



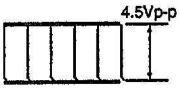
AC mode (D.audio)

㊱ 0.2μsec/div



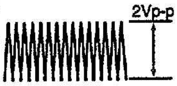
AC mode (D.audio)

㊸ 0.1μsec/div



AC mode (D.audio)

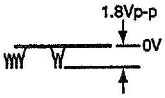
(59) 0.1μsec/div



AC mode (D.audio)

IC803 (LA6510)

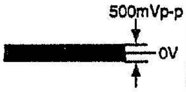
① 2msec/div



DC mode

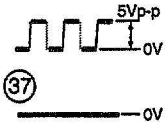
IC901 (LA9420M)

⑯ 5msec/div



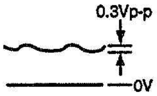
DC mode

㊳ 10μsec/div



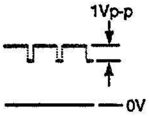
DC mode

㊵ 10msec/div



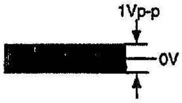
DC mode

㊽ 50μsec/div



DC mode

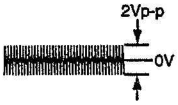
(60) 5msec/div



DC mode

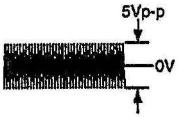
IC902 (TA8410AK)

① 5msec/div



DC mode

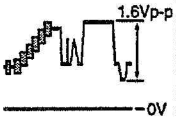
⑨ 5msec/div



DC mode

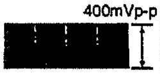
IC400 (LA7134M)

⑩ 10μsec/div



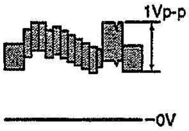
DC mode

㉗ 2msec/div



AC mode

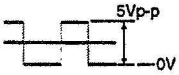
㉕ 10μsec/div



DC mode

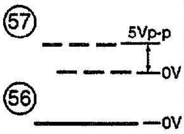
IC500 (PD6159A)

㊼ 5msec/div



DC mode

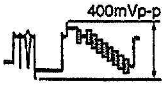
10μsec/div



DC mode

Q441 Emitter

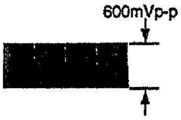
② 10μsec/div



AC mode

CN801

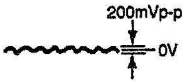
⑫ 2msec/div



AC mode

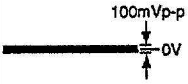
CN802

⑦ 5msec/div



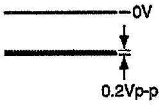
DC mode

⑩ 5msec/div



DC mode

⑪ 5msec/div

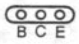
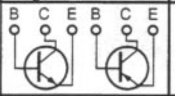
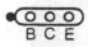
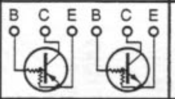
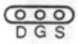
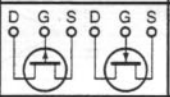
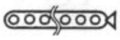
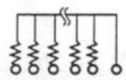
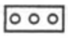
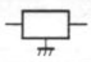


DC mode

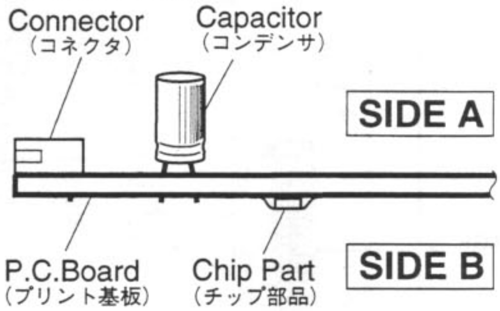
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

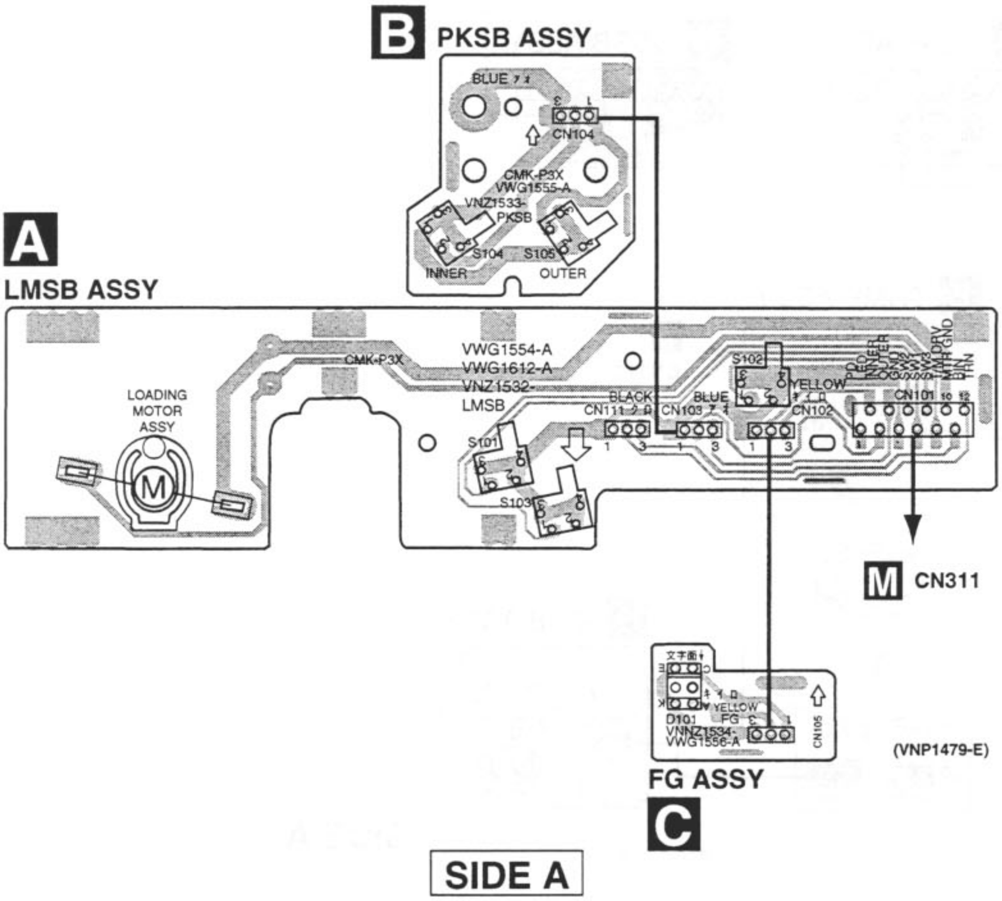
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
 B C E	 B C E B C E	Transistor
 B C E	 B C E B C E	Transistor with resistor
 D G S	 D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

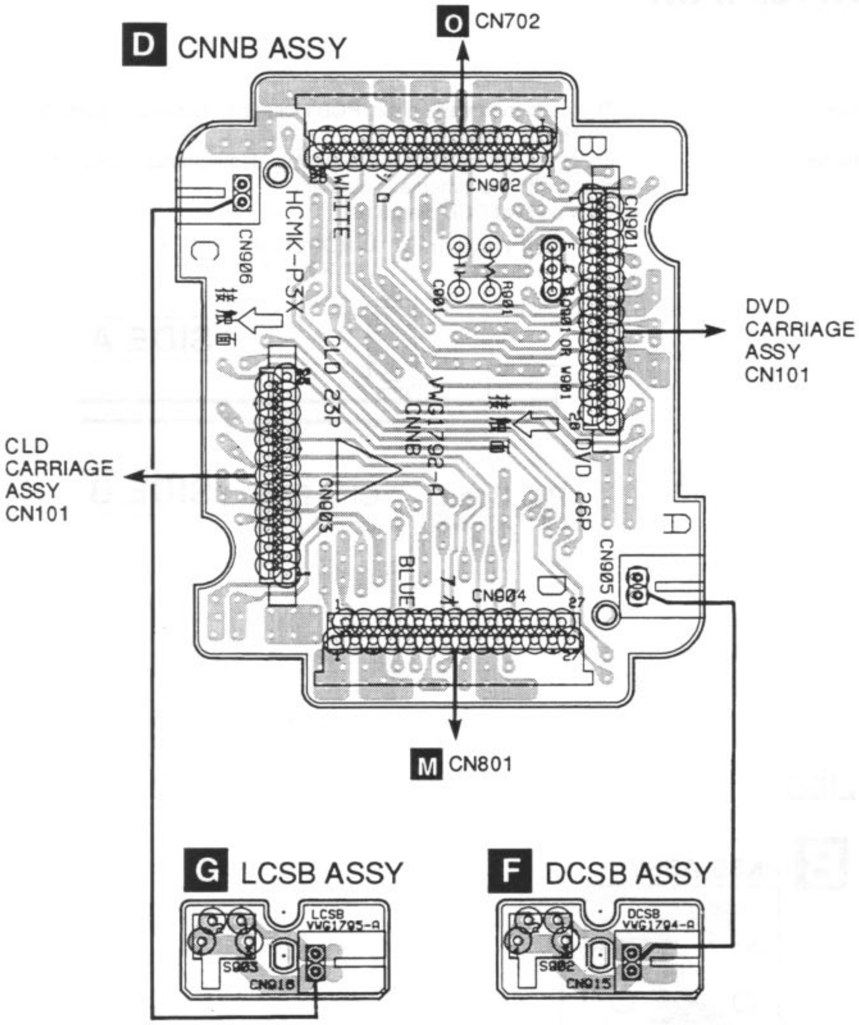
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

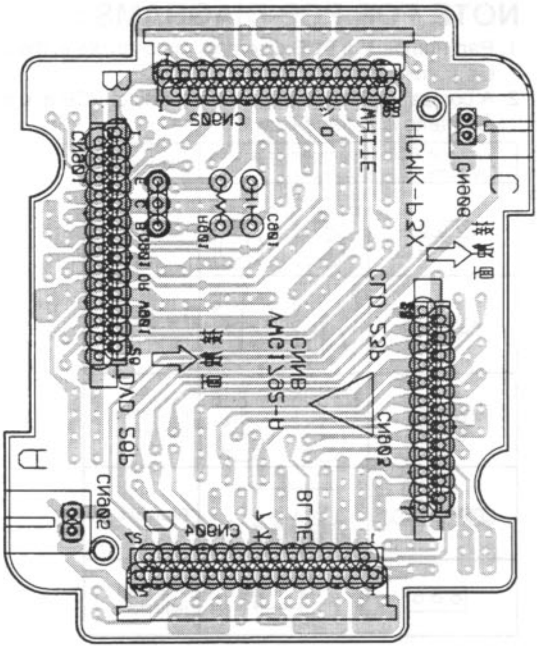

Connector
(コネクタ)
Capacitor
(コンデンサ)
SIDE A
P.C.Board
(プリント基板)
Chip Part
(チップ部品)
SIDE B

4.1 LMSB, PKSB AND FG ASSEMBLIES

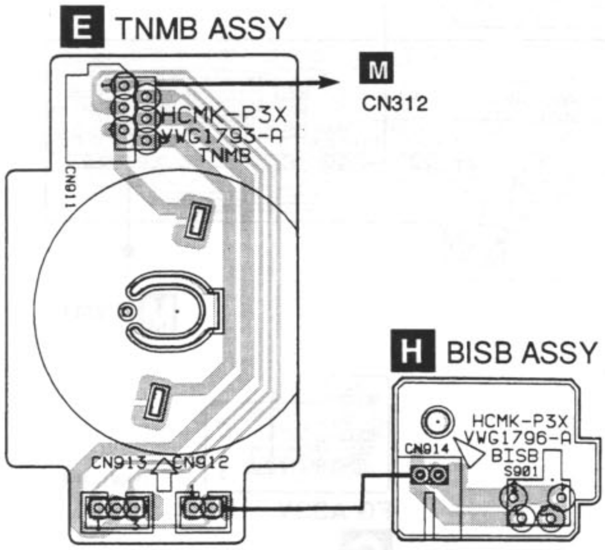

B
PKSB ASSY
BLUE
CN104
CMK-P3X
VWG1555-A
VNZ1533-
PKSB
S104
S105
INNER
OUTER
A
LMSB ASSY
LOADING
MOTOR
ASSY
M
CMK-P3X
VWG1554-A
VWG1612-A
VNZ1532-
LMSB
S101
S103
BLACK
CN111
BLUE
CN103
S102
YELLOW
CN102
PD
INNER
OUTER
SW1
SW2
SW3
M+DRV
M-GND
FG
CN101
M
CN311
文字面
D101
FG
YELLOW
VNNZ1534-
VWG1556-A
CN105
(VNP1479-E)
FG ASSY
C
SIDE A

4.2 CNNB, TNMB, DCSB, LCSB AND BISB ASSEMBLIES


D CNNB ASSY
O CN702
CN902
WHITE
HCMK-P3X
CN906
C
B
CN901
C901
R901
DVD
CARRIAGE
ASSY
CN101
CLD 23P
VWG1792-A
CNNB
DVD 26P
CLD
CARRIAGE
ASSY
CN101
CN903
A
CN905
BLUE
CN904
D
M CN801
G LCSB ASSY
LCSB
VWG1795-A
S903
CN916
F DCSB ASSY
DCSB
VWG1794-A
S902
CN915


CN902
WHITE
HCMK-P3X
CN906
CN901
CLD 23P
VWG1792-A
CNNB
DVD 26P
CN903
CN905
CN904
BLUE

SIDE B

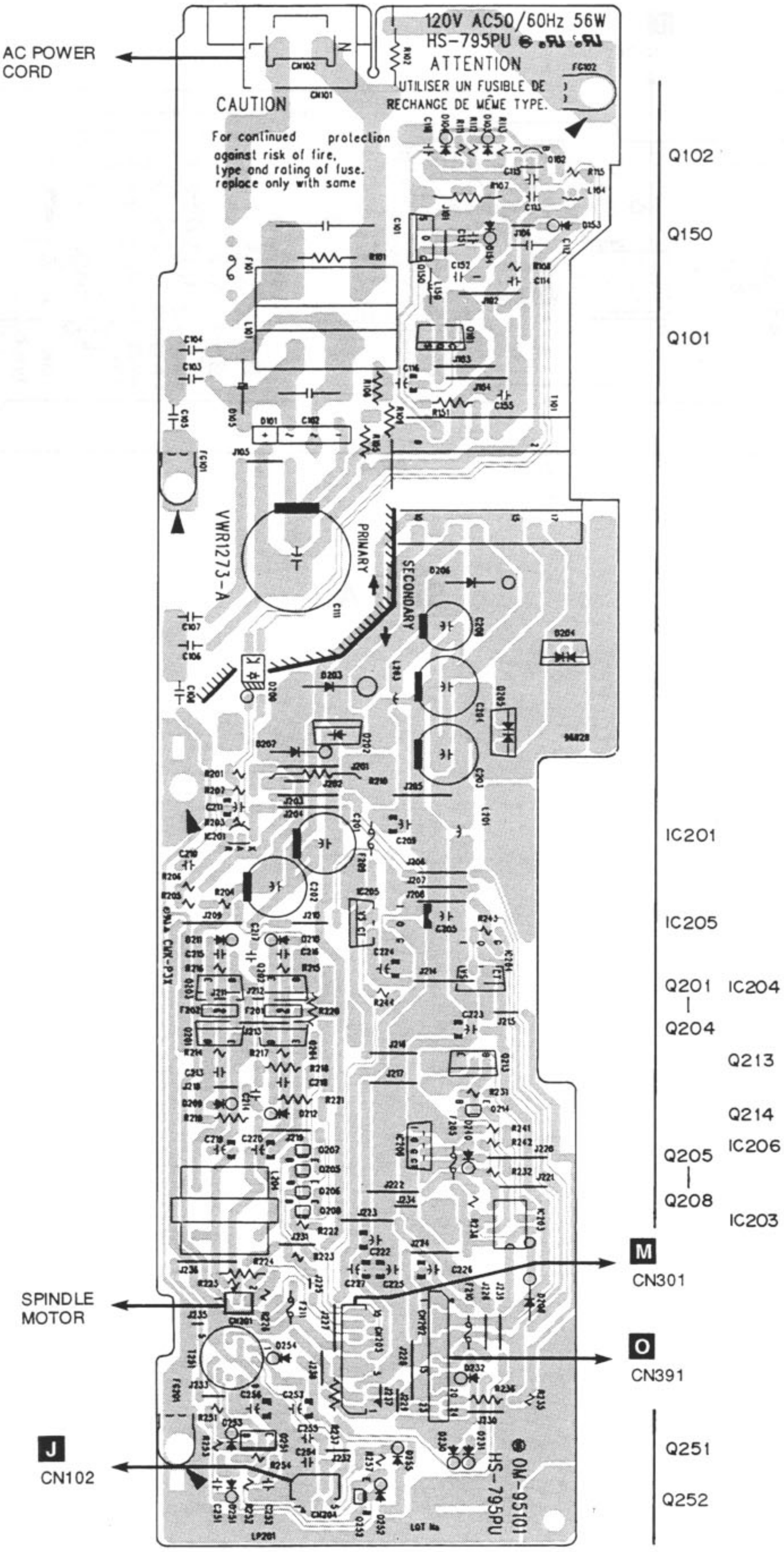

E TNMB ASSY
M
CN312
HCMK-P3X
VWG1793-A
TNMB
CN911
CN913
CN912
H BISB ASSY
HCMK-P3X
VWG1796-A
BISB
CN914
S901

SIDE A

(VNP1599−B)

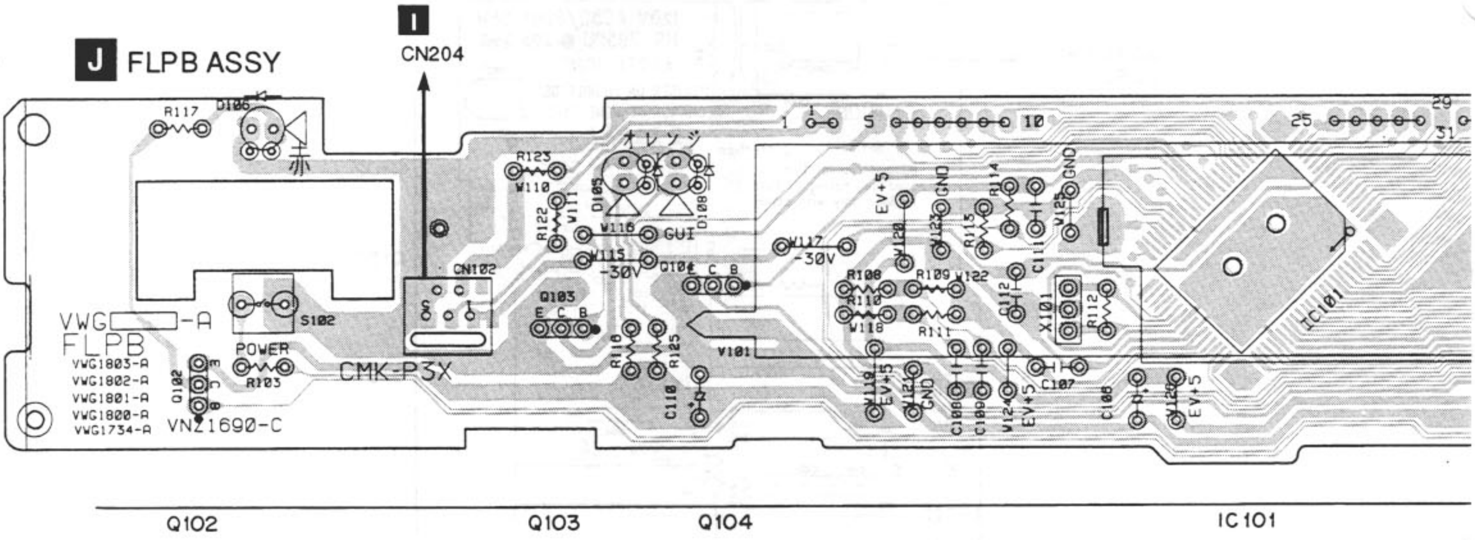
4.3 POWER SUPPLY ASSY

I POWER SUPPLY ASSY

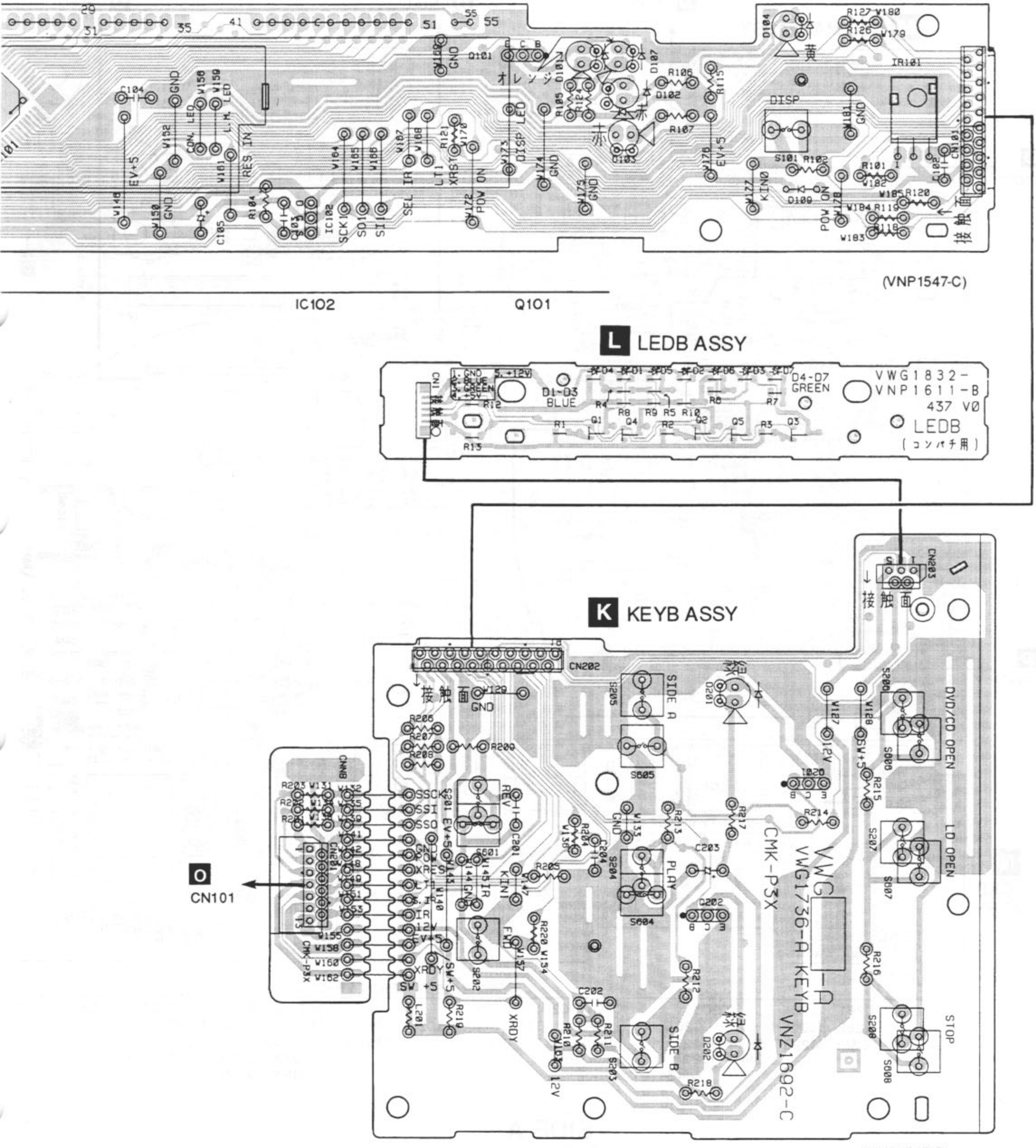

AC POWER CORD
120V AC50/60Hz 56W
HS-795PU
ATTENTION
UTILISER UN FUSIBLE DE
RECHANGE DE MÊME TYPE.
CAUTION
For continued protection
against risk of fire,
type and rating of fuse.
replace only with same
CN102
CN101
FC102
FC101
VWR1273-A
PRIMARY
SECONDARY
CHK-P3X
OM-95101
HS-795PU
LP201
SPINDLE MOTOR
J
CN102
M
CN301
O
CN391
Q102
Q150
Q101
IC201
IC205
Q201
Q204
IC204
Q213
Q214
Q205
Q208
IC206
IC203
Q251
Q252

SIDE A

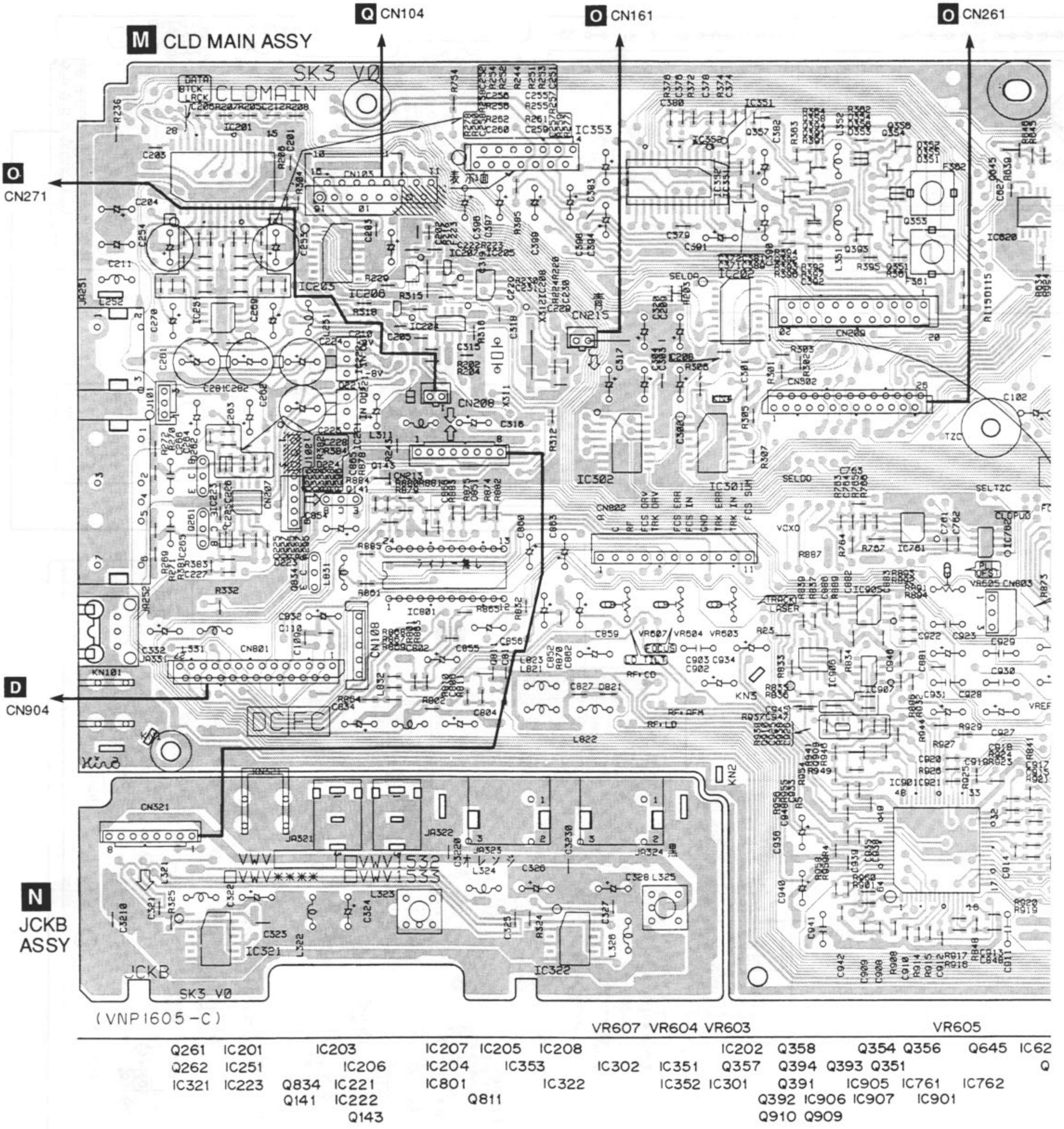
4.4 FLPB, KEYB AND LEDB ASSEMBLIES


J
FLPB ASSY
I
CN204
R117
D106
赤
R123
W110
W111
D105
オレンジ
D108
R122
W116
GUI
W115
-30V
Q104
C B
CN102
CMK-P3X
Q103
E C B
R118
R125
C110
V101
W117
-30V
1
5
10
25
29
31
EV+5
W120
GND
W123
R114
R113
C111
W125
GND
R108
R110
W118
R109
W122
R111
C112
X101
R112
IC101
W119
EV+5
W121
GND
C108
C109
W124
EV+5
C107
C106
W126
EV+5
VWG□-A
FLPB
VWG1803-A
VWG1802-A
VWG1801-A
VWG1800-A
VWG1734-A
VNZ1690-C
Q102
E C B
S102
POWER
R103
Q102
Q103
Q104
IC101

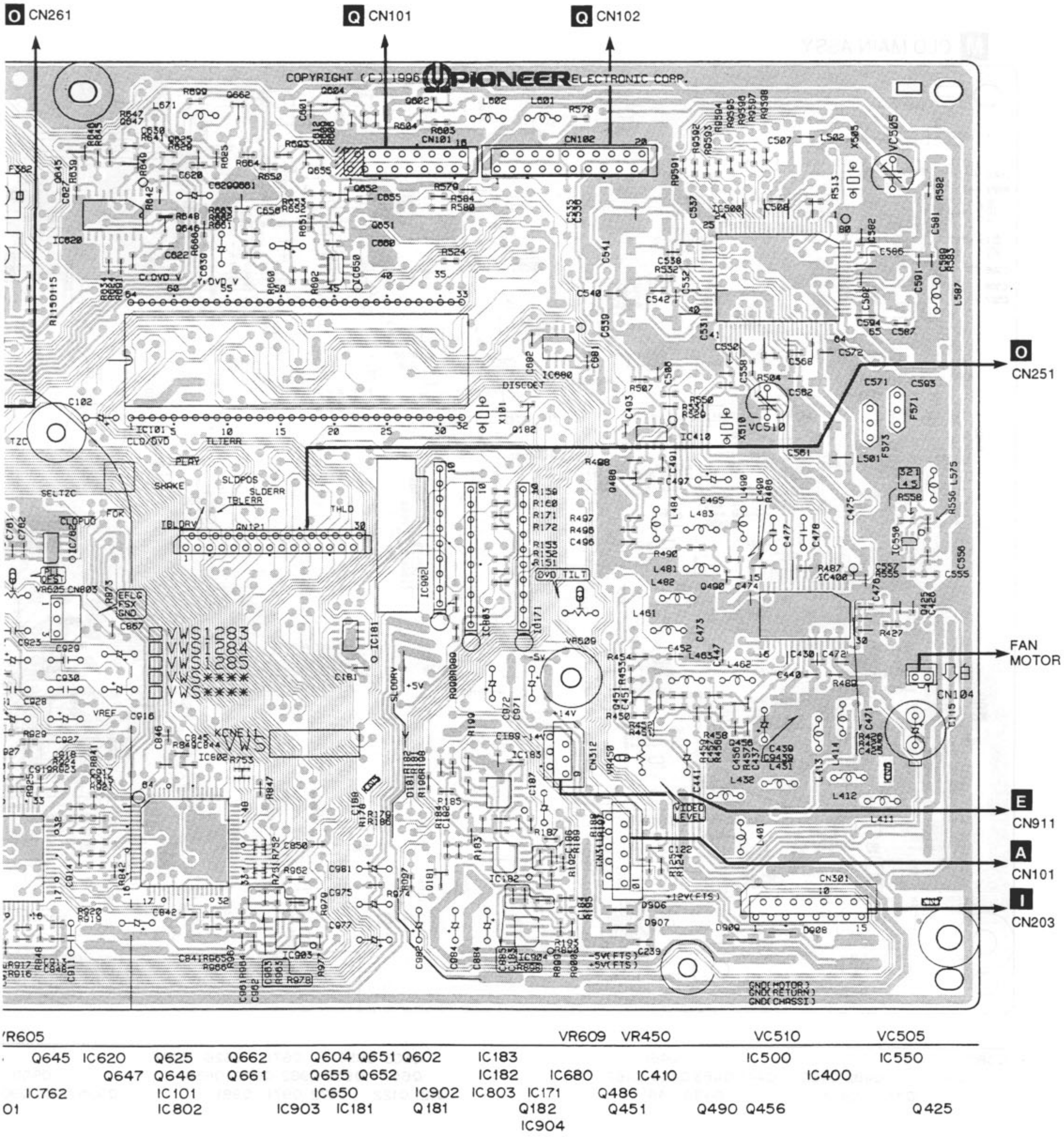
SIDE A


IC102
Q101
(VNP1547-C)
L LEDB ASSY
LEDB
K KEYB ASSY
O
CN101
(VNP1547-C)

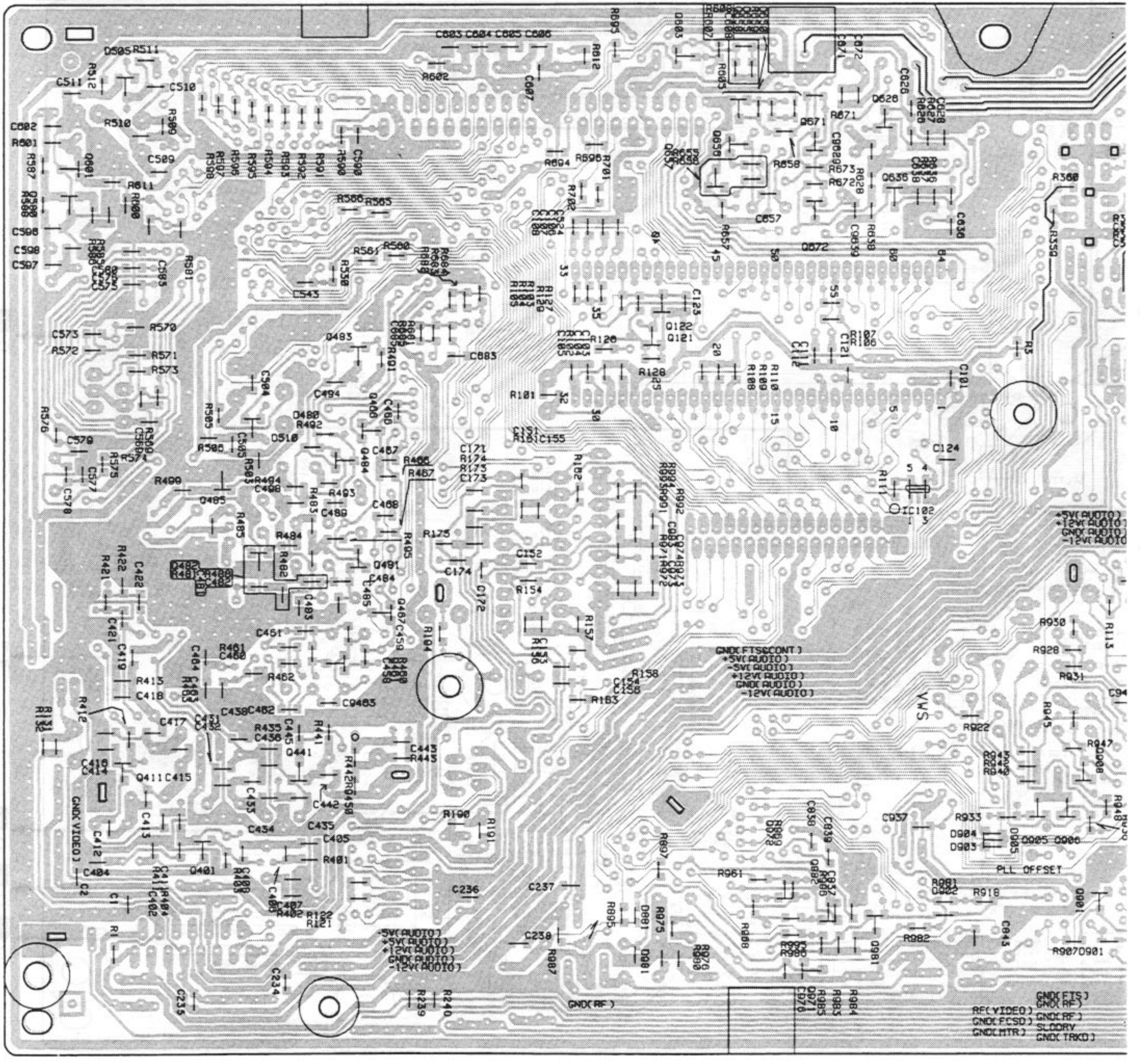
4.5 CLD MAIN AND JCKB ASSEMBLIES


Q CN104
O CN161
O CN261
M CLD MAIN ASSY
O CN271
D CN904
N JCKB ASSY
CLDMAIN
SK3 V0
JCKB
(VNP1605-C)
VR607 VR604 VR603
VR605
Q261 IC201 IC203 IC207 IC205 IC208 IC202 Q358 Q354 Q356 Q645 IC62
Q262 IC251 IC206 IC204 IC353 IC302 IC351 Q357 Q394 Q393 Q351 Q
IC321 IC223 Q834 IC221 IC801 IC322 IC352 IC301 Q391 IC905 IC761 IC762
Q141 IC222 Q811 Q392 IC906 IC907 IC901
Q143 Q910 Q909

SIDE A

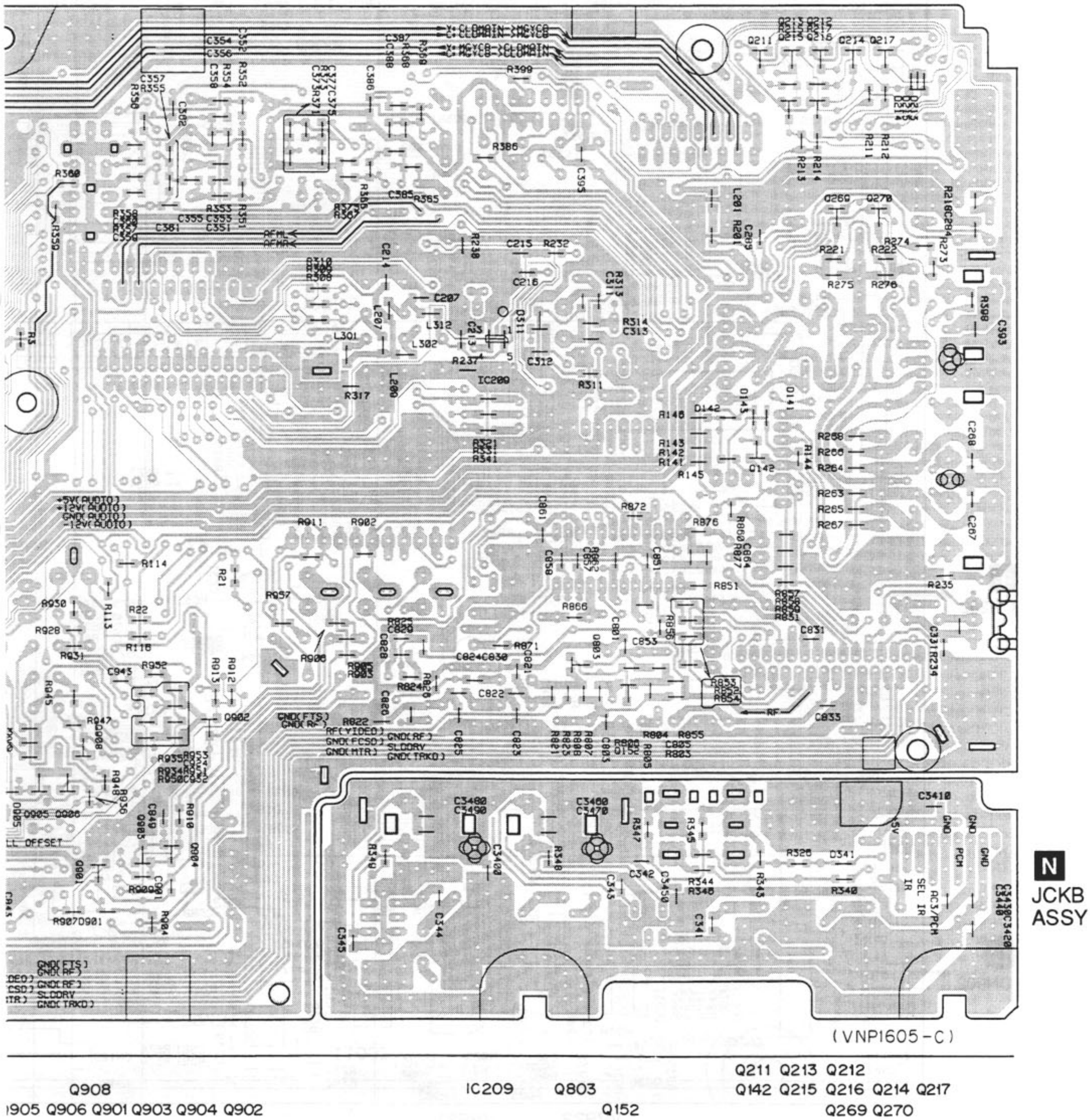

O CN261
Q CN101
Q CN102
O CN251
FAN MOTOR
CN104
E CN911
A CN101
I CN203
COPYRIGHT (C) 1996 PIONEER ELECTRONIC CORP.
VWS1283
VWS1284
VWS1285
VWS****
VWS****
'R605
Q645 IC620 Q625 Q662 Q604 Q651 Q602 IC183
Q647 Q646 Q661 Q655 Q652 IC182 IC680 IC410 IC400
IC762 IC101 IC650 IC902 IC803 IC171 Q486
01 IC802 IC903 IC181 Q181 Q182 Q451 Q490 Q456 Q425
IC904
VR609 VR450 VC510 VC505
IC500 IC550

M CLD MAIN ASSY


+5V(AUDIO)
+12V(AUDIO)
GND(AUDIO)
-12V(AUDIO)
-5V(AUDIO)
GND(FTS&CONT)
GND(VIDEO)
GND(RF)
PLL OFFSET
GND(FTS)
GND(RF)
RF(VIDEO)
GND(FCS)
GND(MTR)
SLDDRV
GND(TRK)
IC102
C603 C604 C605 C606

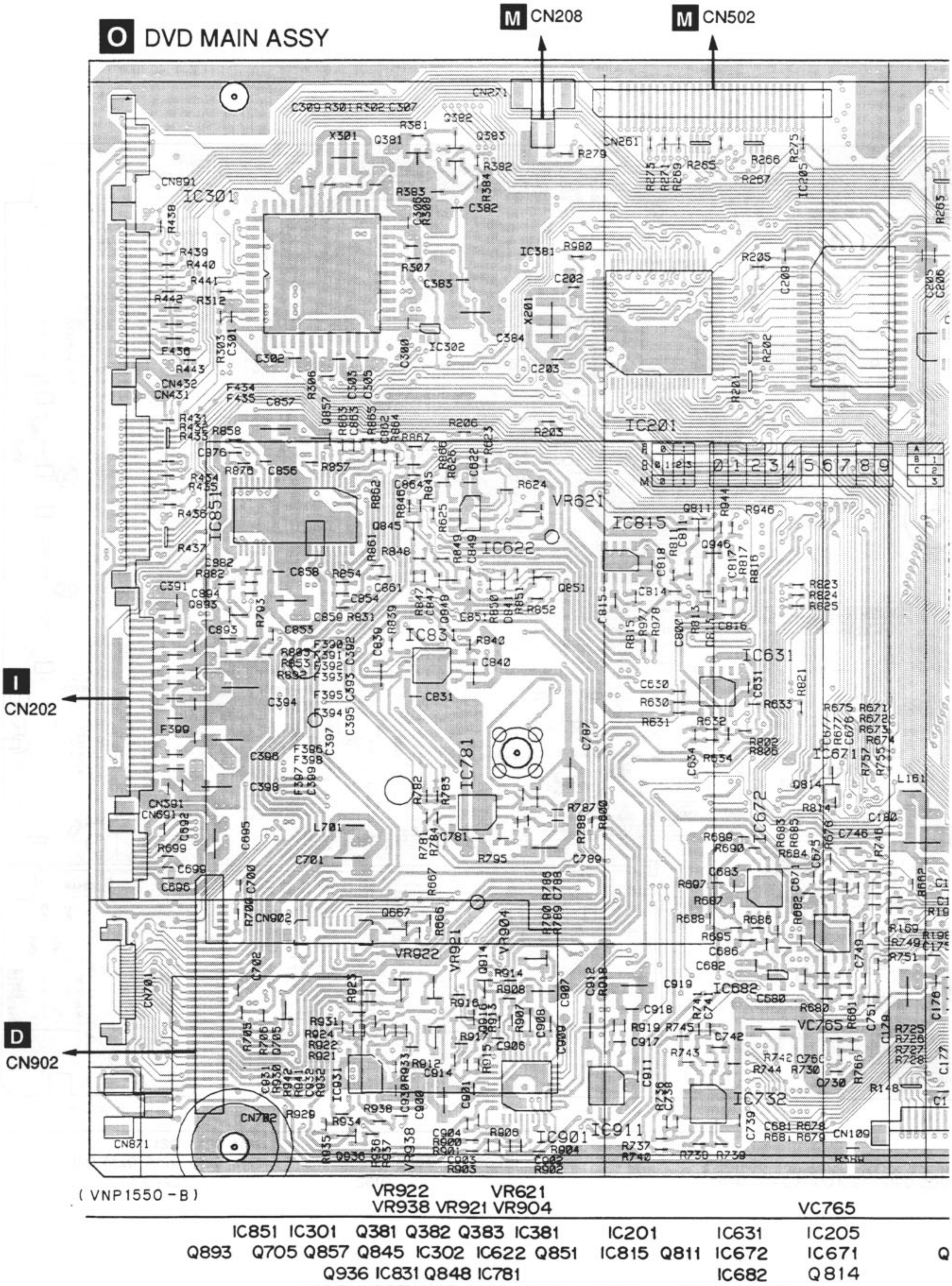
Q580 Q461 Q603 Q656 Q671 Q626 IC102
Q601 Q482 Q485 Q441 Q483 Q466 Q467 Q657 Q658 Q982 Q672 Q636 Q908
Q411 Q401 Q484 Q481 Q121 Q122 Q972 Q971 Q981 Q905 Q906 Q90

SIDE B

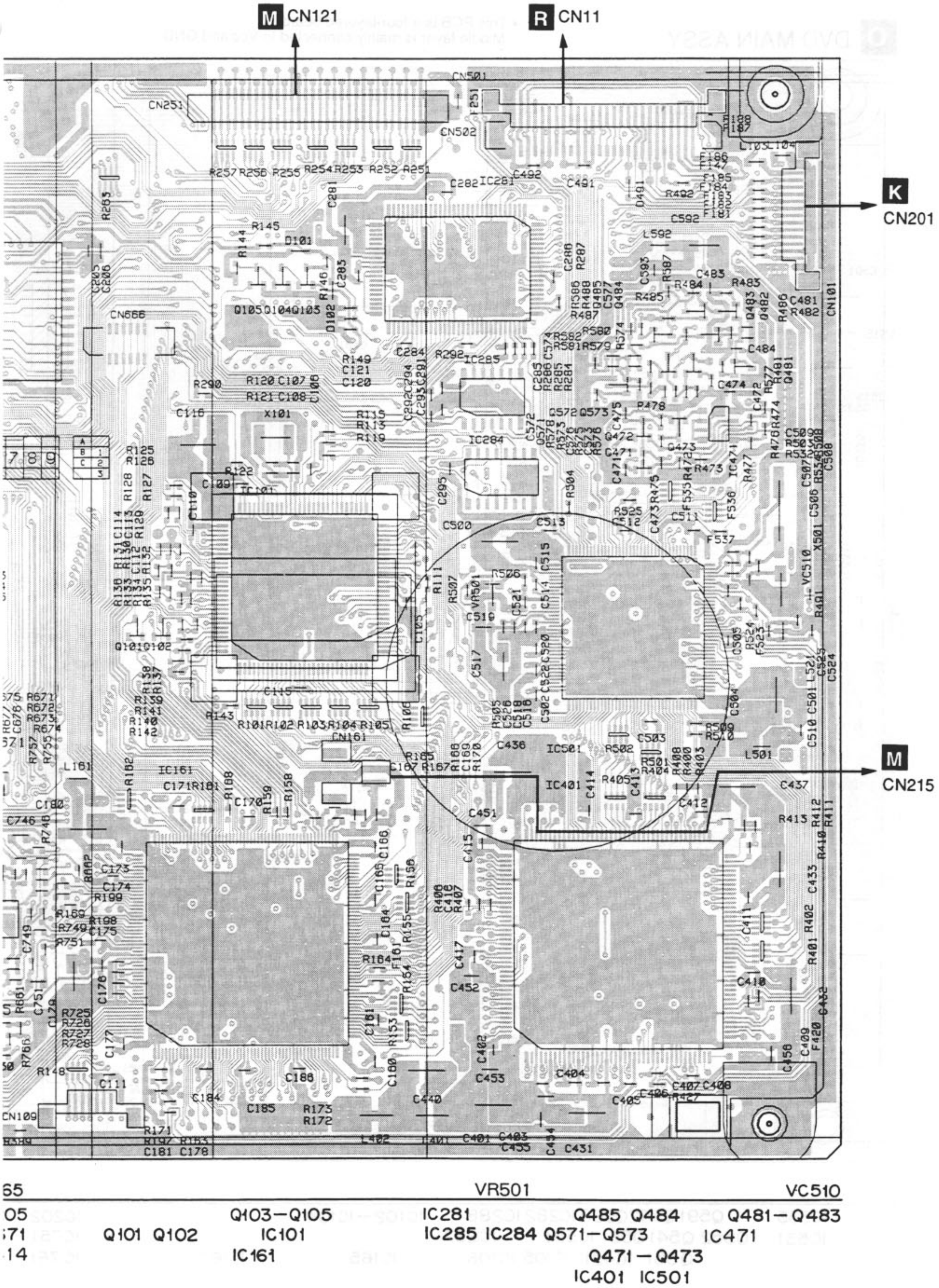

C354
C356
C357
R355
R350
C302
R360
R359
C381
C355
C351
R353
R351
AFML
AFMR
R399
R386
C395
R385
C365
R368
C387
C386
C388
R230
C215
R232
C214
C216
C207
L207
L312
L301
L302
C313
C312
R237
IC209
R317
L208
R311
R313
C311
R314
C313
Q211
Q213
Q212
Q215
Q216
Q214
Q217
R213
R214
R211
R212
L201
R201
C209
Q269
Q270
R221
R222
R274
R273
R275
R276
R218
C284
R398
C393
C208
R148
D142
D143
D141
R143
R142
R141
R145
Q142
R144
R268
R266
R264
R263
R265
R267
C207
+5V(AUDIO)
+15V(AUDIO)
GND(AUDIO)
-12V(AUDIO)
R911
R902
R114
R21
R113
R22
R118
R930
R928
R931
R957
C943
R952
R013
R012
R945
Q902
R947
Q908
R908
C861
R872
R876
R860
R877
C864
C858
C851
R851
R866
R825
C820
C828
R871
C824
C830
C821
C833
R824
R826
C822
C826
R822
C853
R856
R857
C831
R235
C331
R234
R853
R854
RF
GND(FTS)
GND(RF)
RF(YIDEO)
GND(FCSD)
GND(MTR)
GND(RF)
SLDDRV
GND(TRKD)
C825
C823
R804
R855
C805
R803
R935
R934
R936
Q905
Q906
Q903
Q904
Q901
C840
R010
R002
R004
R907
LL OFFSET
C3480
C3490
C3460
C3470
C3400
R340
R348
R347
R345
C342
C345
C3450
C344
C345
C341
R344
R346
R343
R326
D341
R340
C3410
GND
PCM
+5V
SEL IR
IR
AC3/PCM
C3430
C3420
N
JCKB
ASSY
(VNP1605-C)
Q908
Q905 Q906 Q901 Q903 Q904 Q902
IC209
Q803
Q152
Q211 Q213 Q212
Q142 Q215 Q216 Q214 Q217
Q269 Q270

4.6 DVD MAIN ASSY

- This PCB is a four-layered board.
  Middle layer is mainly connected to Vcc and GND.

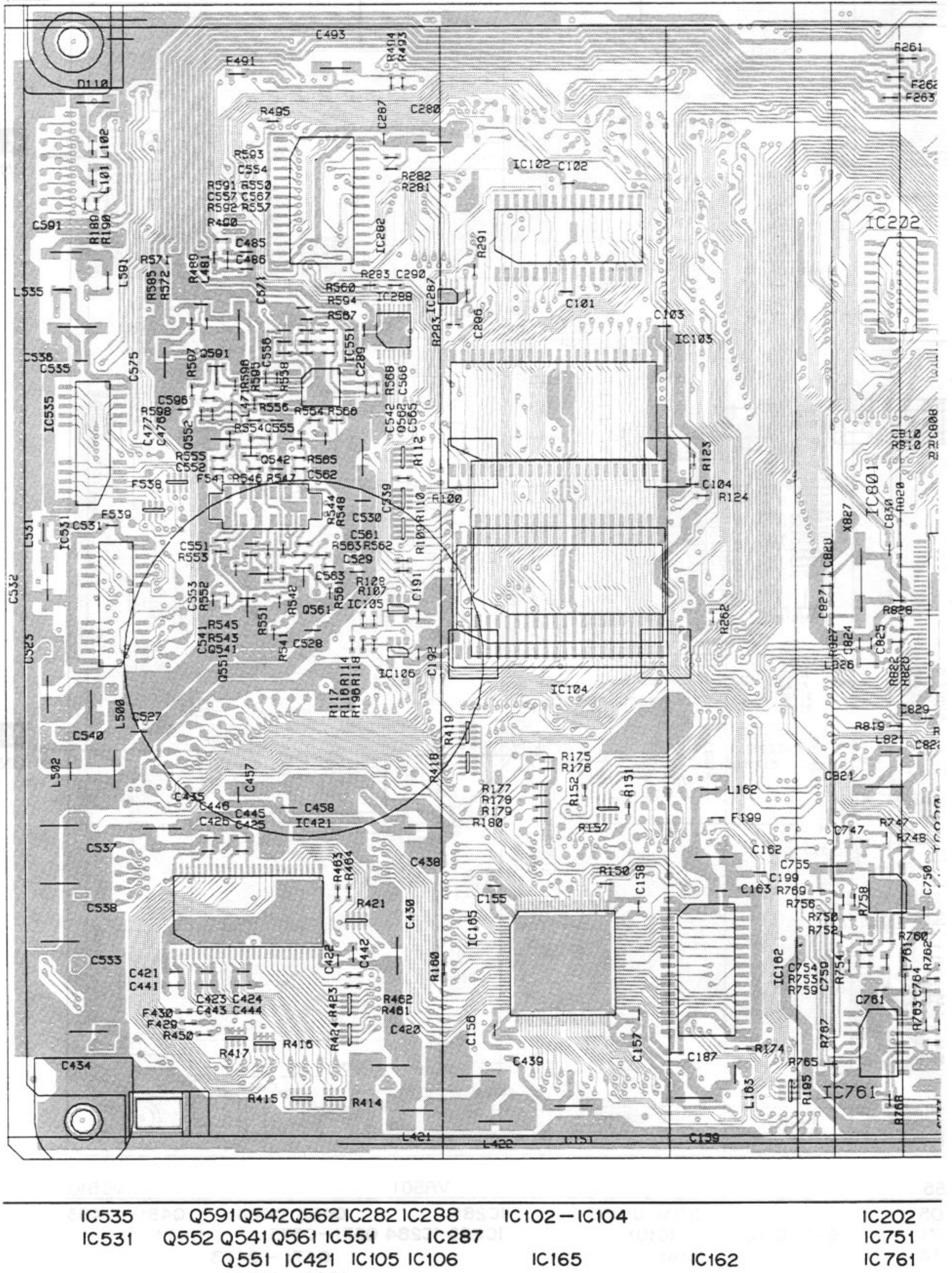

M CN208
M CN502
O DVD MAIN ASSY
I CN202
D CN902
(VNP1550-B)
IC301
IC201
IC851
IC815
IC622
IC831
IC631
IC781
IC672
IC671
IC682
IC732
IC901
IC911
IC931
VR621
VR922
VR921
VR904
VC765
CN891
CN202
CN902
CN701
CN702
CN871
CN109
VR922 VR621
VR938 VR921 VR904
VC765
IC851 IC301 Q381 Q382 Q383 IC381 IC201 IC631 IC205
Q893 Q705 Q857 Q845 IC302 IC622 Q851 IC815 Q811 IC672 IC671 Q
Q936 IC831 Q848 IC781 IC682 Q814
IC931 Q667 Q916 Q914 IC901 IC911 Q946 IC732

SIDE A

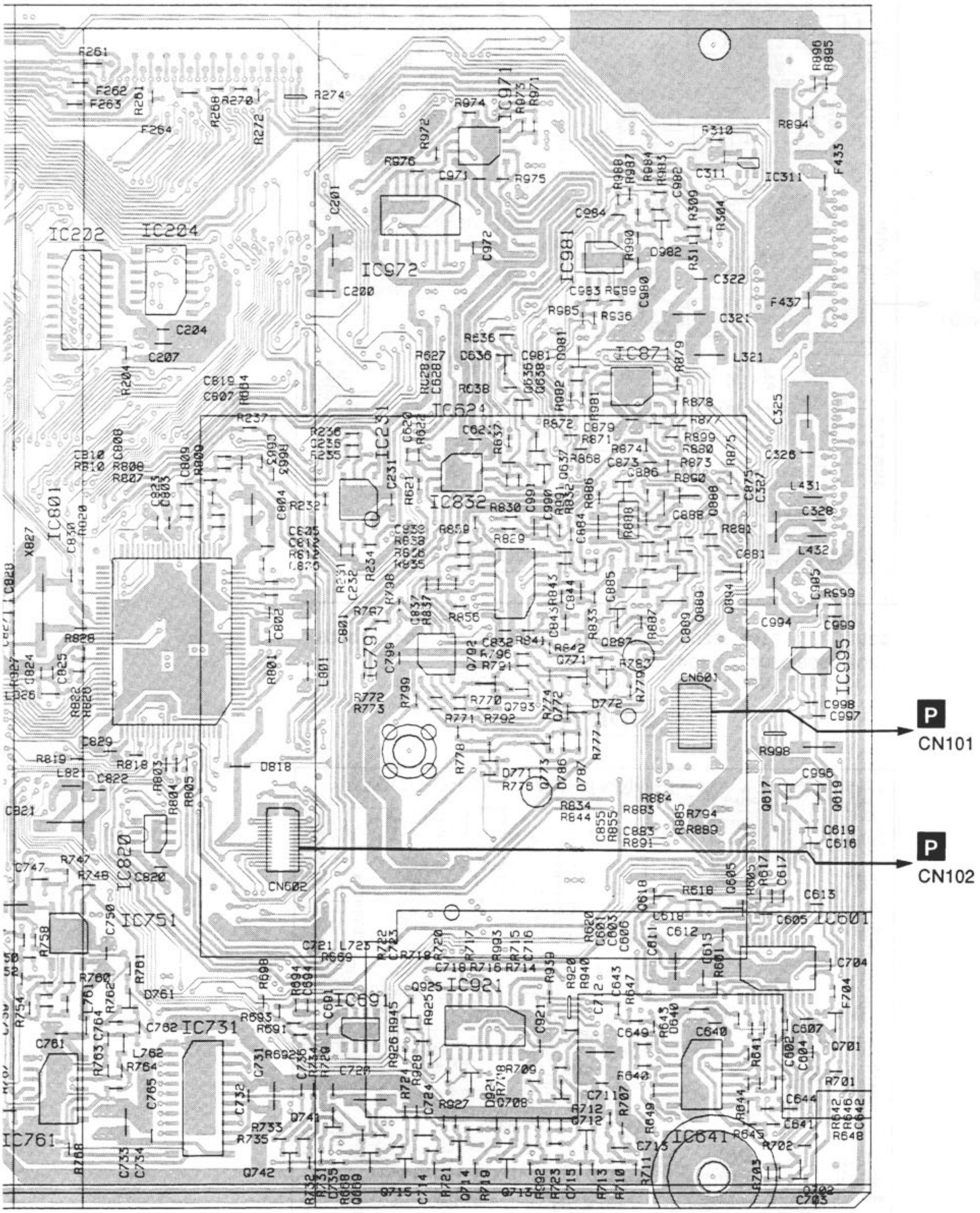

M CN121
R CN11
K CN201
M CN215
CN501
CN502
CN251
CN666
CN161
CN109
CN101
IC101
IC161
IC281
IC284
IC285
IC401
IC501
IC471
X101
X501
VR501
VC510
65
VR501
VC510
05
Q103–Q105
IC281
Q485 Q484
Q481–Q483
71
Q101 Q102
IC101
IC285 IC284 Q571–Q573
IC471
14
IC161
Q471–Q473
IC401 IC501

O DVD MAIN ASSY

- This PCB is a four-layered board. Middle layer is mainly connected to Vcc and GND.


C493
F491
R494
R493
D110
R495
C287
C280
R593
C554
R591 R550
C557 C567
R592 R557
R400
C485
C486
L101
L102
R189
R190
C591
IC282
R282
R281
IC102 C102
IC202
R291
L591
R571
R585
R572
R489
L481
C571
R283 C290
R560
R594
IC288
IC287
R587
R293
C206
C101
C103
IC103
L535
C536
C535
C575
R587
Q591
IC551
C289
R568
C566
IC535
C596
R598
C477
C476
Q552
R556
R554 R566
R554 C555
C542
Q502
C565
R112
R123
R555
C552
Q542
R565
F541
R546 R547
C562
F538
C104
R124
C539
R100
R544
R548
F539
C531
IC531
C530
C561
R563 R562
C529
R109 R110
X827
IC801
C830
C551
R553
C553
R552
C563
R108
R107
C191
R542
Q561
IC105
C827
C828
C532
R545
R543
Q541
C541
Q551
R551
R541
C528
R262
R826
R827
C824
C825
R822
R828
IC106
C192
R114
R117
R118
R119
IC104
C325
L500
C527
C540
R419
C829
R819
L821
R175
R176
R177
R178
R179
R180
R152
R151
L502
R418
C821
L162
F199
C435
C446
C457
C445
C426
C425
C458
IC421
R157
C747
R747
R748
C162
C537
R463
R464
C438
R150
C158
C755
C199
C163
R769
R758
C750
C538
R421
C430
C155
IC165
R756
R750
R752
R760
C533
C422
C442
R160
IC162
C754
R753
R759
C759
R754
L761
R762
C421
C441
C423 C424
C443 C444
R423
R462
R461
C764
C761
F430
F429
R450
R424
C420
C156
C157
R763
R767
R417
R416
C439
C187
R174
C434
R765
R195
IC761
L163
R415
R414
R768
L421
L422
L151
C159
R261
F262
F263
R810
C808
R820
IC535
IC531
Q591 Q542 Q562 IC282 IC288
Q552 Q541 Q561 IC551 IC287
Q551 IC421 IC105 IC106
IC102 – IC104
IC165
IC162
IC202
IC751
IC761

SIDE B


IC202
IC204
IC231
IC972
IC971
IC981
IC871
IC311
IC621
IC832
IC801
IC791
IC995
IC820
IC751
IC691
IC921
IC601
IC731
IC761
IC641
CN601
CN602
P
CN101
P
CN102
F262
F263
F264
F433
F437
X827
L321
L431
L432
L801
L821
L762
L723

(VNP1550-B)

IC202 IC204 IC231 IC972 IC621 IC971 IC981 IC871 IC311 IC995

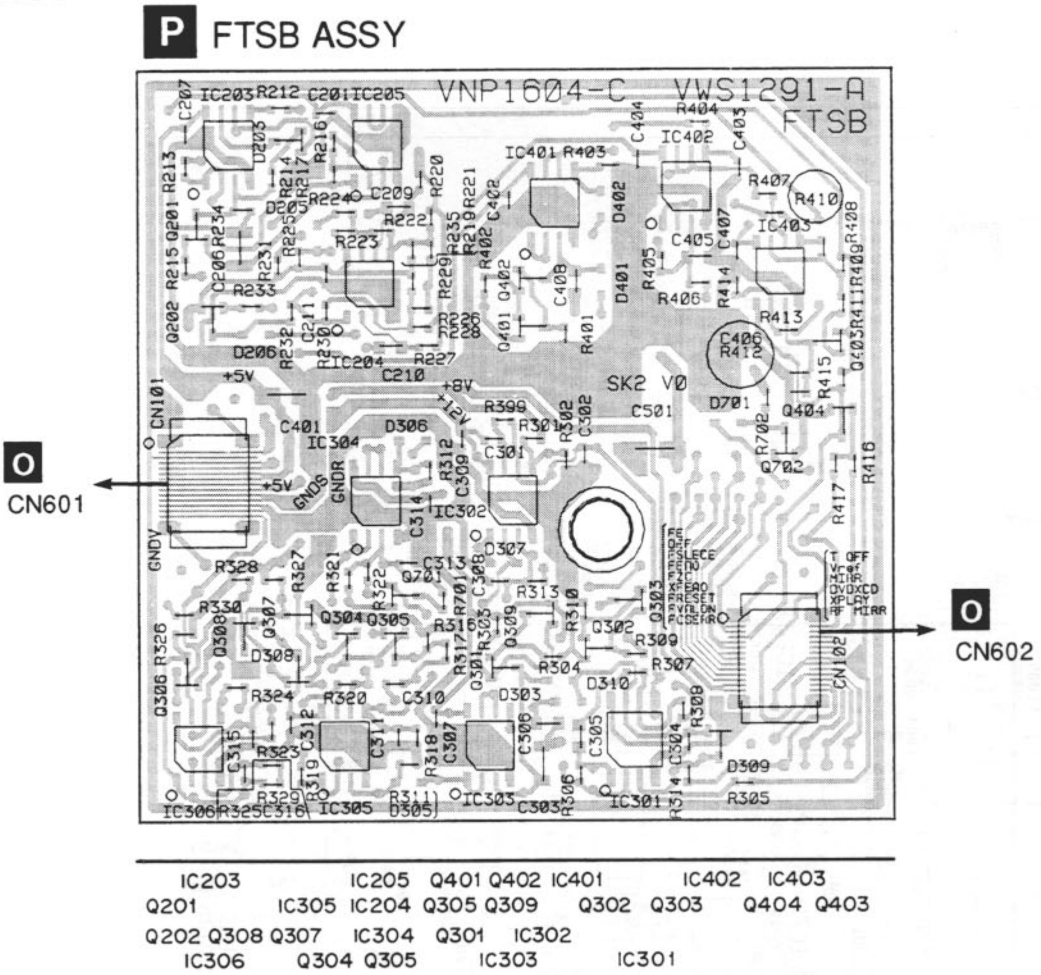
IC751 IC801 IC791 IC832 Q636–Q638 Q886–Q889 Q617 Q619

IC761 IC820 IC731 Q741 IC691 Q925 Q792 Q793 Q771–Q773 Q894 Q701

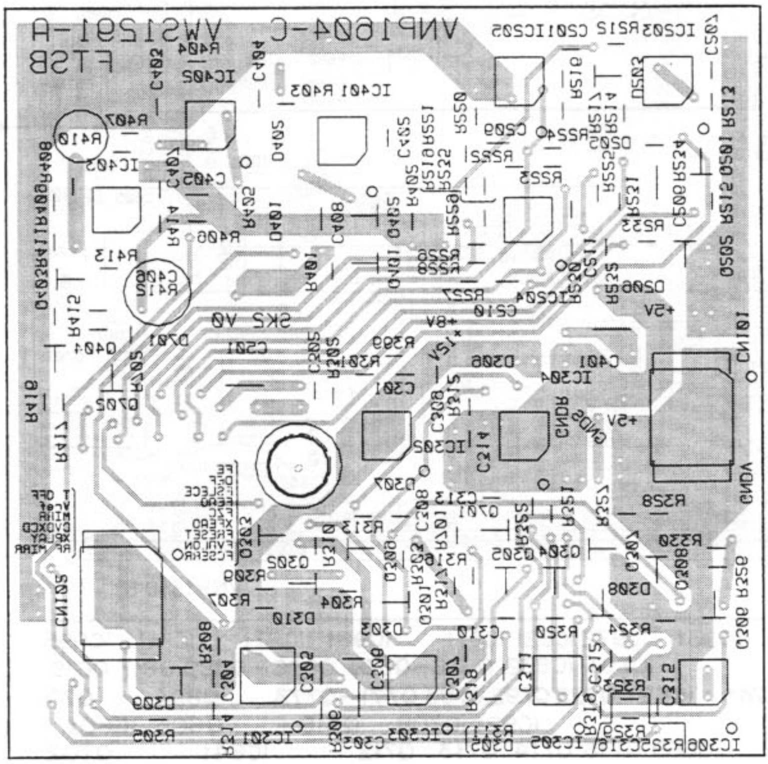
Q742 IC921 Q708 Q618 Q605 IC601

Q669 Q715 Q714 Q713 Q712 IC641 Q702

4.7 FTSB ASSY


P FTSB ASSY
VNP1604-C VWS1291-A
FTSB
O
CN601
O
CN602
CN101
CN102
SK2 V0
+5V
+8V
+12V
GNDV
GNDR
GNDS
IC203
IC205
Q401 Q402
IC401
IC402
IC403
Q201
IC305
IC204
Q305 Q309
Q302
Q303
Q404 Q403
Q202 Q308 Q307
IC304
Q301
IC302
IC306
Q304 Q305
IC303
IC301

SIDE A

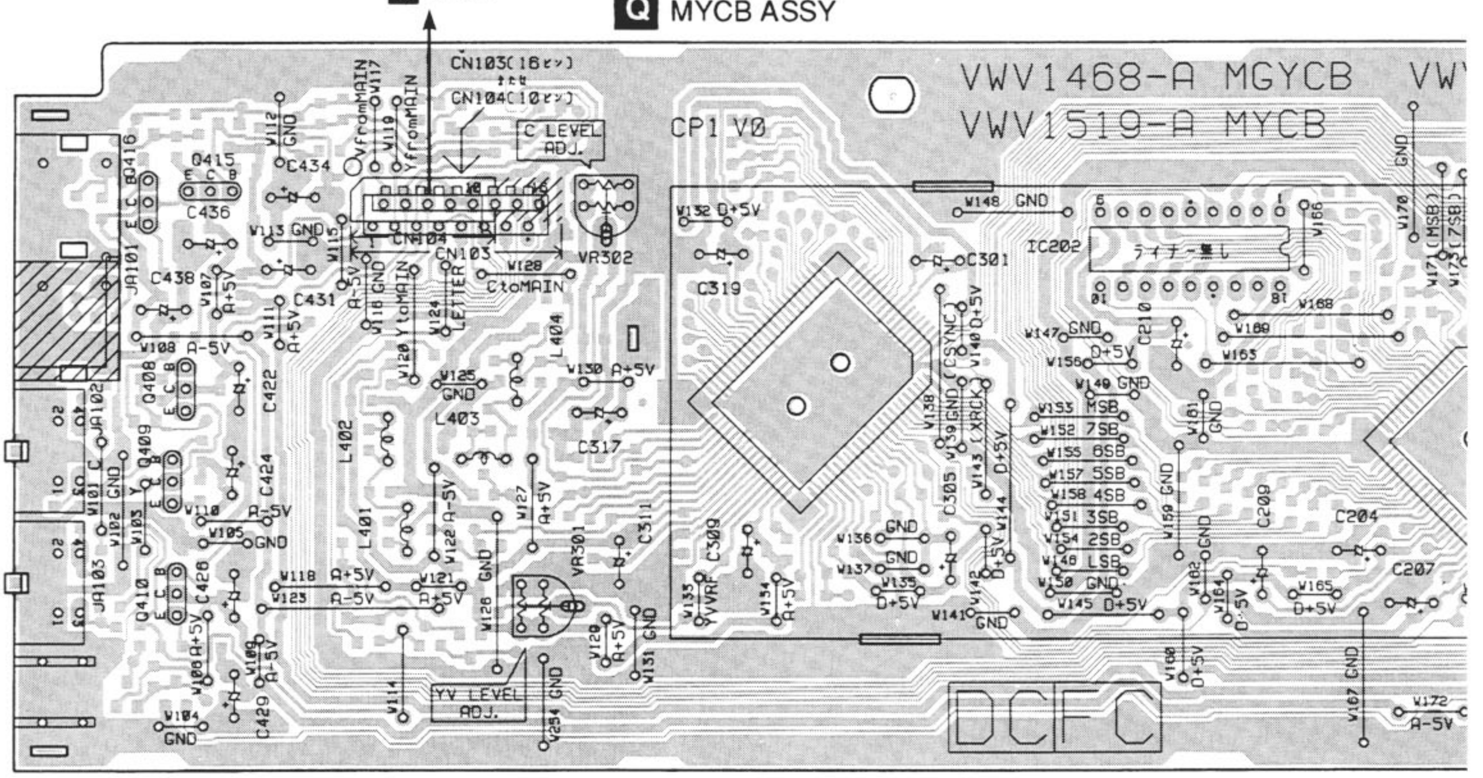

VNP1604-C VWS1291-A
FTSB
CN101
CN102
SK2 V0

SIDE B

4.8 MYCB ASSY

M CN103

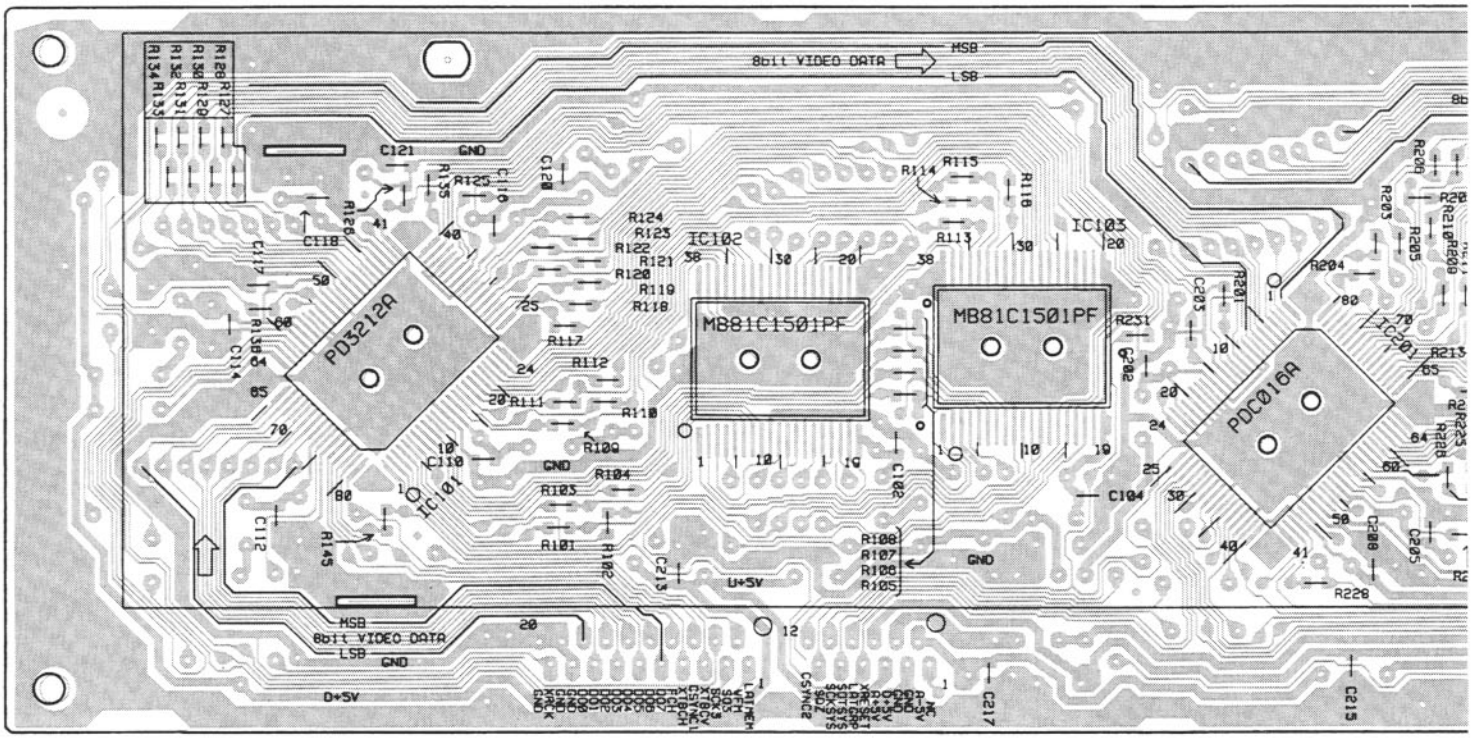
Q MYCB ASSY


VWV1468-A MGYCB
VWV1519-A MYCB
CN103(16ピン)
CN104(10ピン)
C LEVEL ADJ.
CP1 V0
YV LEVEL ADJ.
VR301
VR302
IC202
Q415
Q416
Q408
Q409
Q410
JA101
JA102
JA103
CN103
CN104
L401
L402
L403
L404
8bit VIDEO DATA
DCFC

VR301 VR302
Q416 Q415
Q408–Q410
IC202

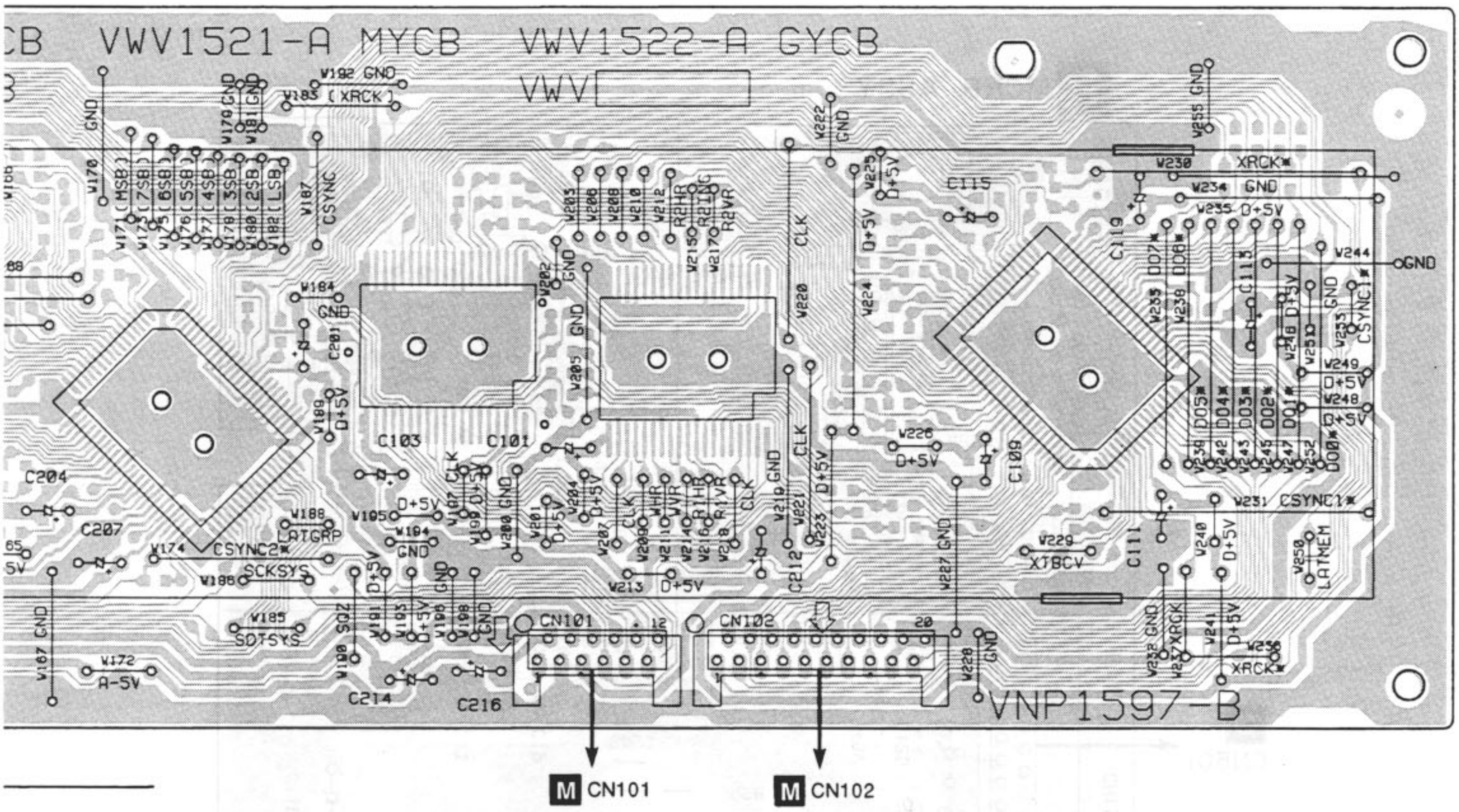
SIDE A

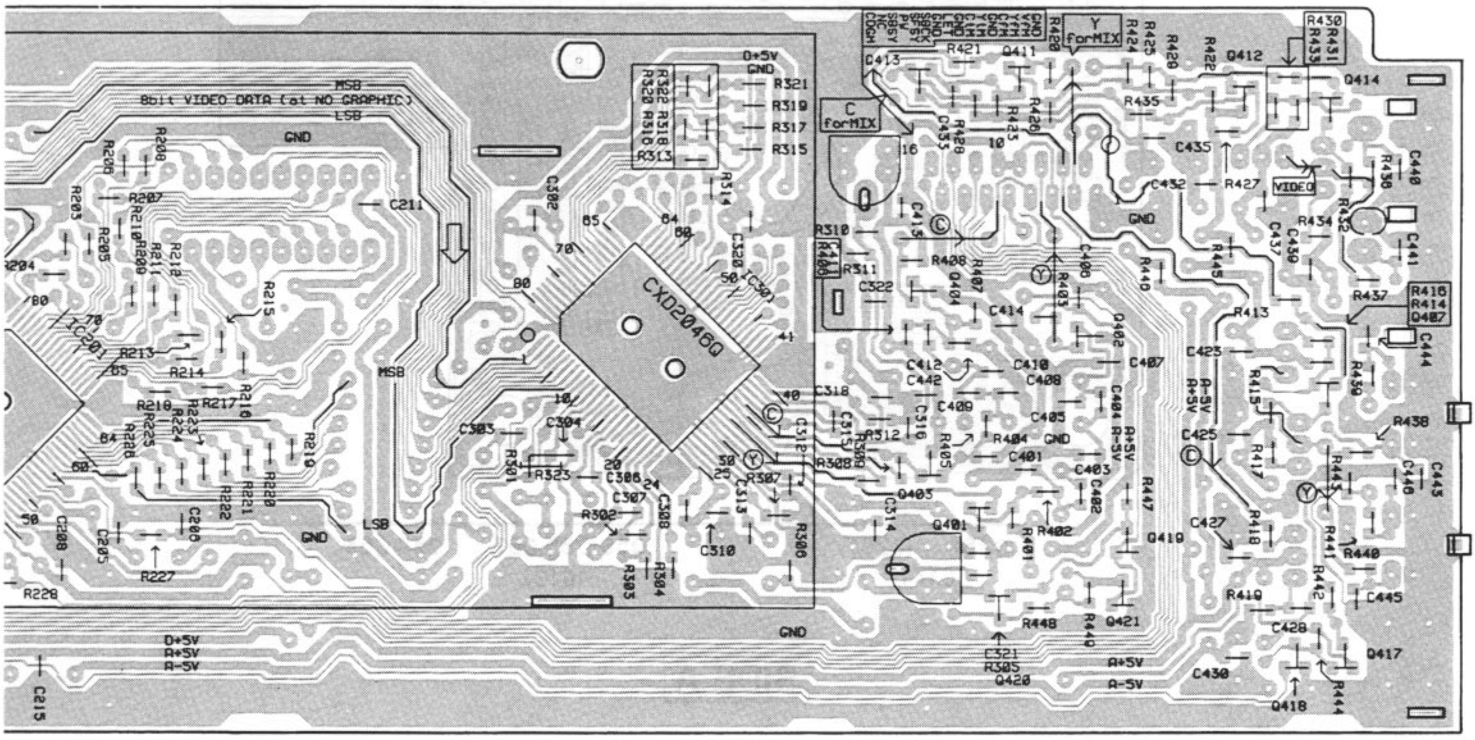
Q MYCB ASSY


8bit VIDEO DATA
MSB
LSB
PD3212A
IC101
MB81C1501PF
IC102
MB81C1501PF
IC103
PDC016A
IC201
GND
D+5V
U+5V

IC101
IC102
IC103
IC201

SIDE B

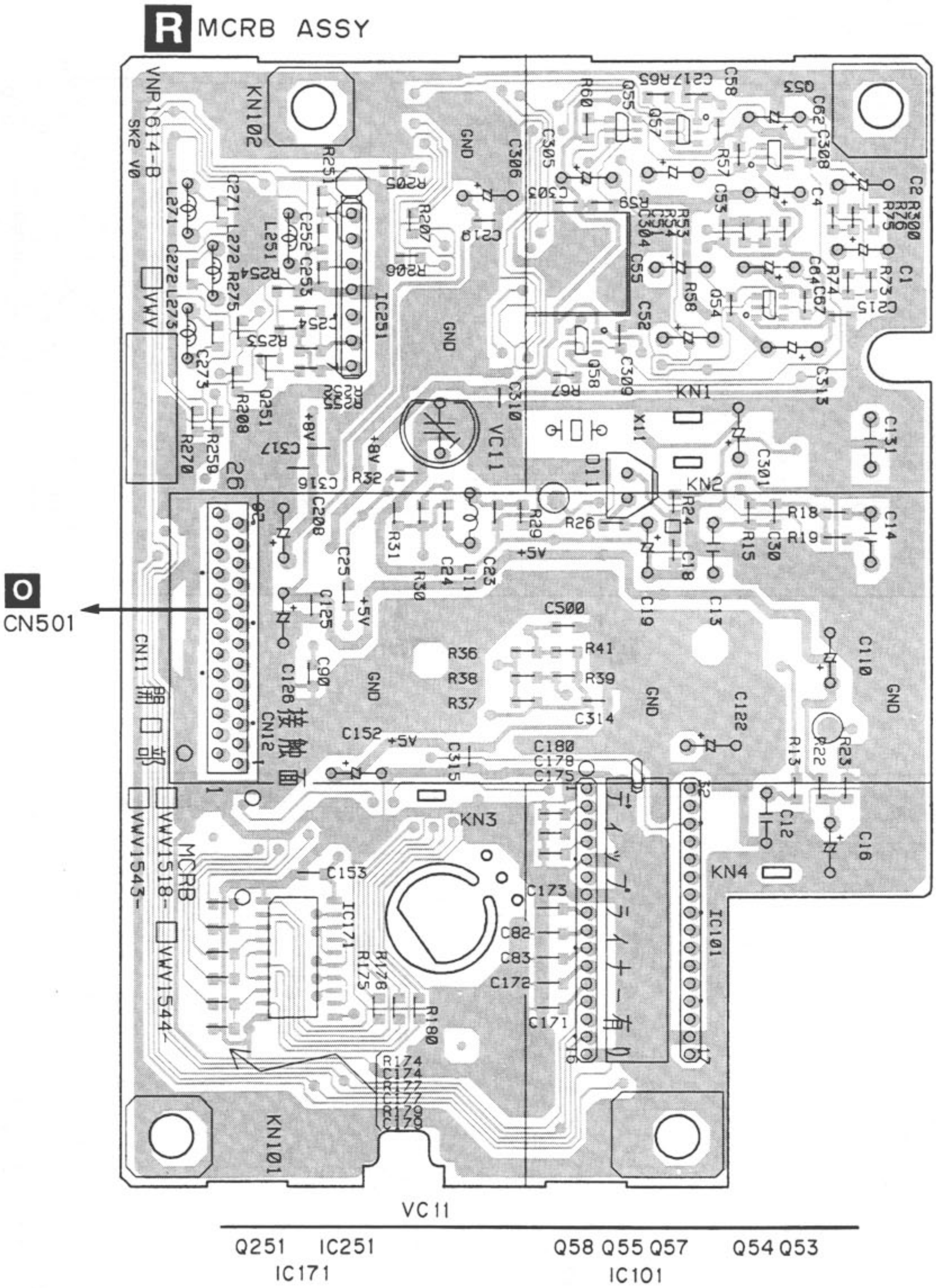

VWV1521-A MYCB
VWV1522-A GYCB
VNP1597-B
CN101
CN102
M CN101
M CN102
XRCK
D+5V
GND
CLK
CSYNC


CXD2046Q
IC301
IC201
8bit VIDEO DATA (at NO GRAPHIC)
MSB
LSB
GND
C forMIX
Y forMIX
VIDEO
D+5V
A+5V
A-5V

IC301

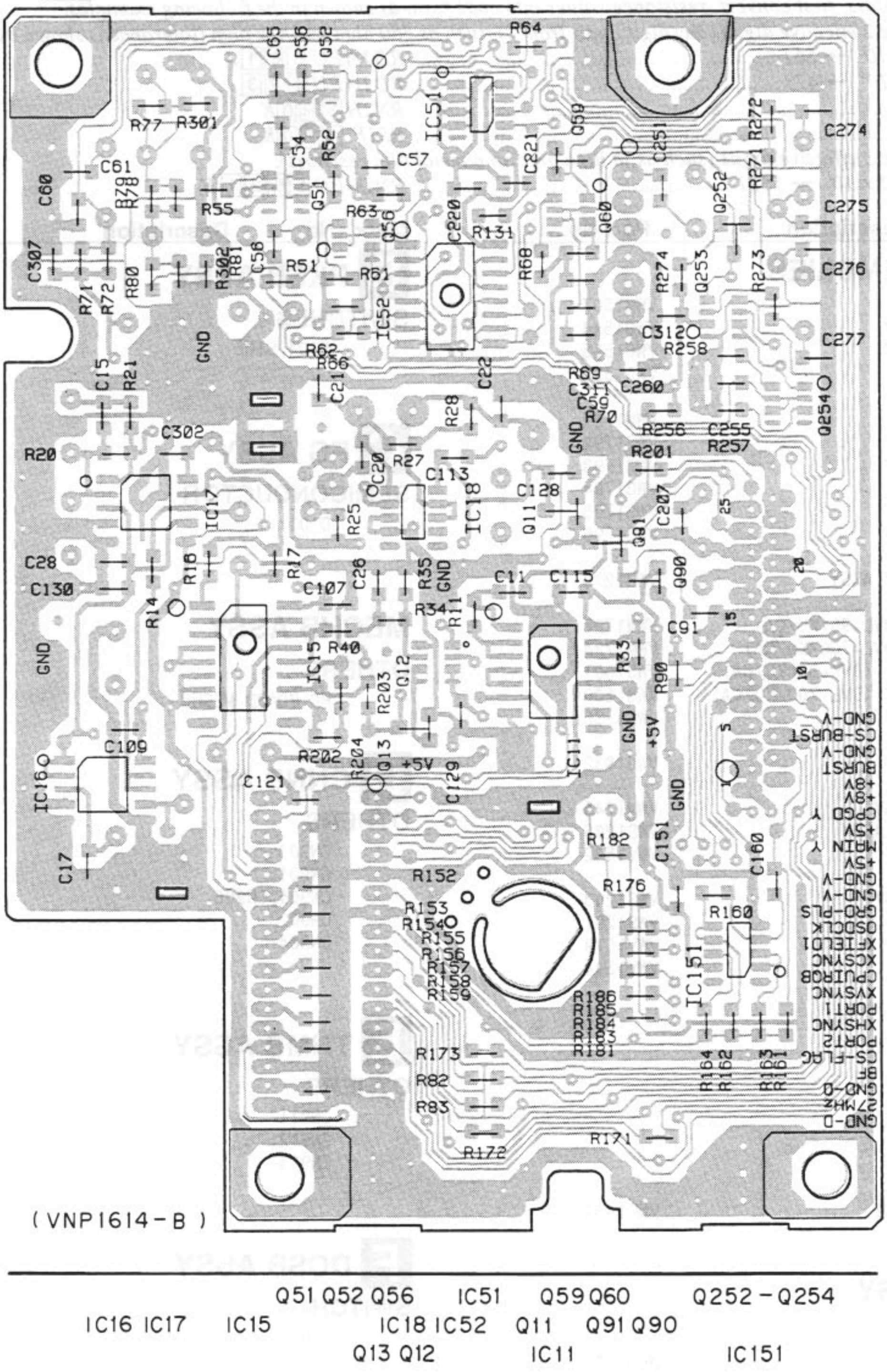
Q413 Q404 Q411 Q402 Q412 Q414 Q407
Q403 Q401 Q420 Q421 Q419 Q418 Q417

4.9 MCRB ASSY


R MCRB ASSY
O
CN501
VNP1614-B
SK2 V0
KN102
KN101
KN1
KN2
KN3
KN4
IC251
IC171
IC101
VC11
D11
X11
CN11
CN12
GND
+5V
+8V
MCRB
VWV1518-
VWV1543-
VWV1544-
VWV
C500
R36
R38
R37
R41
R39
C314
C152
C153
C173
C82
C83
C172
C171
R180
R174
C174
R177
C177
R179
C179
C180
C178
C175
C315
R13
R22
R23
C122
C110
C12
C16
C14
C13
C18
C19
R18
R19
R15
C30
R24
R26
R29
R31
R30
C23
C24
C25
L11
C125
C120
C90
C208
C316
R32
C317
C310
R250
R270
R208
Q251
C273
R253
C254
R254
R275
L273
C272
L272
C271
L271
L251
C252
C253
C213
R206
R207
R205
R251
C306
C305
C303
R59
C304
C55
C52
C309
R67
Q58
Q55
Q57
R60
R65
C217
C58
Q53
C62
C308
R57
C53
C4
C2
R300
R76
R75
C1
R73
C15
R74
C64
C67
Q54
R58
C313
C131
C301
VC11
Q251 IC251
IC171
Q58 Q55 Q57
IC101
Q54 Q53

SIDE A

R MCRB ASSY


R64
C65
R56
Q52
IC51
Q59
C251
R272
R271
C274
R77
R301
C54
R52
C57
C221
Q252
C275
C61
C60
R79
R78
R55
Q51
R63
Q56
C220
R131
Q60
R273
C276
C307
R71
R72
R80
R302
R81
C56
R51
R61
R68
R274
Q253
C312
R258
C277
IC52
R62
R66
C216
C22
R69
C311
C59
R70
C260
Q254
GND
C15
R21
C302
R28
R256
C255
R257
R20
C20
R27
C113
IC18
C128
Q11
R201
Q91
C207
25
IC17
R25
C28
C130
R16
R17
C107
C26
R35
GND
C11
C115
Q90
20
R14
R34
R11
C91
15
GND
IC15
R40
R203
Q12
R33
R90
10
C109
R202
R204
Q13
+5V
C129
GND
+5V
IC11
5
IC16
C121
GND
C151
C17
R182
C160
R152
R176
R153
R154
R155
R156
R157
R158
R159
R160
IC151
R186
R185
R184
R183
R181
R173
R82
R83
R164
R162
R163
R161
R172
R171
GND-V
CS-BURST
GND-V
BURST
+8V
+8V
CFGD Y
+5V
MAIN Y
+5V
GND-V
GND-V
GRD-PLS
OSDCLK
XFIELD1
XCSYNC
CPUIROB
XVSYNC
PORT1
XHSYNC
PORT2
CS-FLAG
BF
GND-D
27MHz
GND-D
(VNP1614-B)
Q51 Q52 Q56
IC51
Q59 Q60
Q252 - Q254
IC16 IC17
IC15
IC18 IC52
Q11
Q91 Q90
Q13 Q12
IC11
IC151

SIDE B

5. PCB PARTS LIST

NOTES: • Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56×10^1 → 561 .... RD1/4PU $\boxed{5}\boxed{6}\boxed{1}$ J
47k Ω → 47×10^3 → 473 .... RD1/4PU $\boxed{4}\boxed{7}\boxed{3}$ J
0.5 Ω → 5R0 .... RN2H $\boxed{5}\boxed{R}\boxed{0}$ K
1 Ω → 1R0 .... RS1P $\boxed{1}\boxed{R}\boxed{0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562×10^1 → 5621 .... RN1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	MACB ASSY		VWM1507
NSP	├ LMSB ASSY		VWG1554
NSP	├ PKSB ASSY		VWG1555
NSP	└ FG ASSY		VWG1556
NSP	MECHB ASSY		VWM1721
NSP	├ CNNB ASSY		VWG1792
NSP	├ TNMB ASSY		VWG1793
NSP	├ DCSB ASSY		VWG1794
NSP	├ LCSB ASSY		VWG1795
NSP	└ BISB ASSY		VWG1796
⚠	POWER SUPPLY ASSY		VWR1273
NSP	FLKB ASSY (DVL-90/KU/CA)		VWM1725
NSP	FLKB ASSY (DVL-700/KU/CA)		VWM1724
	├ FLPB ASSY (DVL-90/KU/CA)		VWG1801
	├ FLPB ASSY (DVL-700/KU/CA)		VWG1800
	└ KEYB ASSY		VWG1736
	LEDB ASSY		VWG1832
NSP	CLD MAIN ASSY		VWM1745
	├ CLD MAIN ASSY		VWS1285
	└ JCKB ASSY		VWV1532
	DVD MAIN ASSY		VWS1243
	FTSB ASSY		VWS1291
	MYCB ASSY		VWV1519
	MCRB ASSY		VWV1544

MACB ASSY

OTHERS

Mark	No.	Description	Part No.
	PC BOARD MACB		VNP1479

A LMSB ASSY

SWITCHES

Mark	No.	Description	Part No.
	S101-S103		DSG1017

OTHERS

Mark	No.	Description	Part No.
	CN101	10P FFC CONNECTOR	52044-1045

B PKSB ASSY

SWITCHES

Mark	No.	Description	Part No.
	S104, S105		DSG1017

C FG ASSY

SEMICONDUCTOR

Mark	No.	Description	Part No.
	D101		GP1S24

MECHB ASSY

OTHERS

Mark	No.	Description	Part No.
	PC BOARD MECHB		VNP1599

D CNNB ASSY

OTHERS

Mark	No.	Description	Part No.
	CN903		52030-2310
	CN901		52030-2610
	CN905, CN906		S2B-PH-K-S
	CN902		SLW26R-1C7
	CN904		SLW27R-1C7

E TNMB ASSY

OTHERS

Mark	No.	Description	Part No.
	CN911		52044-0645
	CN912		B2B-PH-K-S
	CN913		B3B-PH-K-S

F DCSB ASSY

SWITCH

Mark	No.	Description	Part No.
	S902		DSG1017

OTHERS

Mark	No.	Description	Part No.
	CN915		S2B-PH-K-S

G LCSB ASSY

SWITCH

Mark	No.	Description	Part No.
	S903		DSG1017

OTHERS

	CN916		S2B-PH-K-S

H BISB ASSY

SWITCH

	S901		DSG1017

OTHERS

	CN914		S2B-PH-K-S

I POWER SUPPLY ASSY

SEMICONDUCTORS

	IC201		AN1431T
	IC203		UPC358C
	IC204, IC205		VZF1047
	IC206		VZF1048
	Q203, Q204		T7F4S
	Q201, Q202		T7F4T
⚠	Q150		VZF1049
⚠	Q101		VZF1050
	Q207, Q208, Q214		2SA933S
	Q205, Q206, Q252		2SC1740S
⚠	Q102		2SC3377
	Q251		2SD2007
	Q213		2SD2395
⚠	D101		D2SB60F4004
⚠	D105		K1V24
⚠	D103		MTZJ2.7B
	D253		MTZJ2.7B
	D255		MTZJ8.2B
⚠	D200		PS2501
	D207		RD33FB2
	D206		S2LA20
	D203		S3L20U
⚠	D153		VZF1045
	D230-D232		VZF1045
	D202		VZF1051
	D204, D205		VZF1052
⚠	D154		VZF1053
	D240		VZF1054
	D252		VZF1055
⚠	D104		1SS270A
	D208, D251		1SS270A
	D209-D212, D254		10ELS2

OTHERS

⚠	F201, F202	FUSE	VEK1033
⚠	F205, F210, F211	FUSE (1A)	VEK1041
⚠	F209	FUSE (0.5A)	VEK1043
⚠	F101	FUSE (3.15A)	VEK1044

J FLPB ASSY

VWG1801 and VWG1800 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		VWG1801	VWG1800	
	R111	RD1/4PU202J	RD1/4PU472J	

• PARTS LIST FOR VWG1801

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC101		PD4753B
	IC102		S-806D
	Q102		DTA124ES
	Q101, Q103, Q104		DTC124ES
	D101, D105, D107, D108		SLR-342DUT31
	D102, D103, D106		SLR-342VCT31
	D104		SLR-342YCT31

SWITCHES

	S101, S102		RSG1030

CAPACITORS

	C105		CEJA470M6R3
	C103		CKPUYB102K50
	C102, C104, C107-C109, C111		CKPUYF103Z25

RESISTORS

	All Resistors		RD1/4PU□□□J

OTHERS

	CN102	FFC BOTTOM CONNECTOR 5P	52492-0520
		REMOTE RECEIVER UNIT	GP1U28X
	V101	FL TUBE	VAW1042
		SPACER	VEC1599
	CN101	1.25FJ CONNECTOR	VKN1375
		FL HOLDER	VNF1087
	X101	CERAMIC (5.00MHz)	VSS1104

K KEYB ASSY

SEMICONDUCTORS

	Q201, Q202		DTC124ES
	D201, D202		SLR-342MCT31

SWITCHES

	S201-S208		RSG1030

CAPACITORS

	C201, C202		CKPUYF103Z25

RESISTORS

	All Resistors		RD1/4PU□□□J

OTHERS

	CN203	5P FFC CONNECTOR	VKN1181
	CN201	13P FFC CONNECTOR	VKN1217
	CN202	1.25 FJ CONNECTOR	VKN1375

L LEDB ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q1-Q3		2PD601A
	Q4, Q5		UN2212
	D1-D3		CL-170SB-X
	D4-D7		PG1112H-430

RESISTORS

	All Resistors		RS1/10S☐☐☐J

OTHERS

	CN1	FLEXIBLE CONNECTOR	VKN1374

M CLD MAIN ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC761, IC904		BA10393F
	IC223, IC251, IC680, IC903		BA4560F
	IC905, IC906		BA4560F
	IC352		CA0002AM
	IC171, IC803		LA6510
	IC400		LA7134M
	IC901		LA9420M
	IC801		LA9425
	IC802		LC78681KE
	IC353		M51131L
	IC182, IC183		MM6558XF
⚠	IC221		NJM78L08A
⚠	IC222		NJM79L08A
	IC208		NJU6322KE
	IC202		PD0236AM
	IC101		PD0246A2
	IC201		PD2029AM(L)
	IC500		PD6159B
	IC902		TA8410AK
	IC181, IC762, IC907		TC4W53F
	IC203, IC301		TC74HC157AF
	IC302, IC620		TC74HC4053AF
	IC206		TC7S00F
	IC102		TC7S32F
	IC205, IC209, IC550		TC7SU04F
	IC650		TC7W00F
	IC207		TC7WH74FU
	IC204		TC7WU04F
	Q121, Q182, Q482, Q580, Q645		2PB709A
	Q672, Q906		2PB709A
	Q269, Q270, Q391-Q393, Q401		2PD601A
	Q441, Q481, Q625, Q626, Q636		2PD601A
	Q646, Q647, Q655-Q658		2PD601A
	Q661, Q662, Q671, Q803, Q811		2PD601A
	Q902-Q905, Q908, Q909		2PD601A
	Q834		2SA854S
	Q152		2SC3802K
	Q261, Q262		2SD2144S
	Q211-Q214, Q217, Q394, Q651		DTA124EK
	Q981		DTA124EK
	Q122, Q181, Q215, Q216, Q652		DTC124EK
	Q901, Q971		DTC124EK
	Q910		FMY1A
	D221		EC10QS04
	D311, D505		KV1851
	D181, D650, D655, D821, D881		MA111
	D901, D902, D981		MA111
	D223, D224		MA152WA
	D215, D905		MA152WK
	D851		UDZ2.0B
	D115		UDZ5.1B

COILS AND FILTERS

	L413		LAU100J
	L401		LAU101J
	L352, L821-L823		LAU181J
	L251, L252, L311, L331, L351		LAU220J
	L412, L461, L482, L831, L832		LAU220J
	L411, L587		LAU270J
	L431, L432, L575		LAU430J
	L671		LAU4R7J
	L462		LAU560J
	L414		LAU8R2J
	L463		LFA561J
	F573	14.3MHz FILTER	VTF1055
	F223		VTF1094
	L201, L209, L301, L302, L312	CHIP COIL(22µH)	VTL1058
	L207	CHIP COIL(1.5µH)	VTL1059

CAPACITORS

	C417, C418, C421, C434, C543		CCSQCH100D50
	C577, C845		CCSQCH100D50
	C255, C256, C353, C655, C821		CCSQCH101J50
	C843, C864, C865, C943		CCSQCH101J50
	C432, C436, C483		CCSQCH120J50
	C412		CCSQCH121J50
	C408, C414, C484, C569		CCSQCH150J50
	C355, C823, C901		CCSQCH151J50
	C313, C352		CCSQCH180J50
	C205, C509, C824, C973		CCSQCH220J50
	C413, C555, C920, C921		CCSQCH221J50
	C550		CCSQCH240J50
	C354, C411, C416, C431, C830		CCSQCH270J50
	C104, C105, C356, C433, C451		CCSQCH330J50
	C579, C596		CCSQCH330J50
	C351, C407, C485, C672		CCSQCH390J50
	C671		CCSQCH391J50
	C222, C257-C260, C405, C461		CCSQCH470J50
	C229, C597		CCSQCH5R0C50
	C358, C598, C806		CCSQCH680J50
	C435, C822, C829		CCSQCH7R0D50
	C357, C825		CCSQCH820J50
	C459, C462		CCSQCH910J50
	C230		CCSQCJ3R0C50
	C656		CEAL100M16
	C437		CEAL101M6R3
	C927, C931		CEAL220M6R3
	C936, C940		CEAL470M16
	C316		CEAL470M6R3
	C975		CEANP100M16

Mark	No.	Description	Part No.
	C263,C264,C629,C639		CEANP220M10
	C187,C211,C441,C856		CEANP470M6R3
	C221,C394,C397,C398,C884		CEAS100M50
	C332,C391		CEAS101M10
	C115		CEAS102M6R3
	C269,C270,C867		CEAS1R0M50
	C399,C971,C972,C981,C982		CEAS220M25
	C863,C902,C934,C977		CEAS2R2M50
	C320		CEAS470M10
	C102,C202,C204,C209		CEAS470M16
	C223,C224,C261,C262,C302		CEAS470M16
	C304,C317,C382,C390,C396		CEAS470M16
	C802,C804,C832,C834,C842		CEAS470M16
	C852,C854,C859,C860		CEAS470M16
	C253,C254		CEAS471M10
	C862,C984		CEAS4R7M50
	C383,C916,C922		CEASR47M50
	C439		CEV100M16
	C471,C473,C475,C507,C531		CEV101M6R3
	C535,C537,C539,C541,C561		CEV101M6R3
	C571,C581,C591,C593		CEV101M6R3
	C928		CFTXA104J50
	C477,C911,C929		CFTXA154J50
	C930		CFTXA473J50
	C478		CFTXA683J50
	C425,C910,C917,C918		CKSQYB102K50
	C942		CKSQYB104K25
	C925		CKSQYB332K50
	C379,C380		CKSQYB392K50
	C371-C376,C388,C912		CKSQYB472K50
	C763		CKSQYB682K50
	C106-C112,C121,C124,C153		CKSQYF103Z50
	C155,C173,C181,C183,C184		CKSQYF103Z50
	C188,C189,C201,C203		CKSQYF103Z50
	C206-C208,C210,C213,C214		CKSQYF103Z50
	C231,C251,C252,C281-C283		CKSQYF103Z50
	C301,C303,C311,C312,C315		CKSQYF103Z50
	C318,C319,C331,C361,C362		CKSQYF103Z50
	C381,C386,C389,C395,C422		CKSQYF103Z50
	C442,C510,C511,C558		CKSQYF103Z50
	C575,C576,C580,C583,C587		CKSQYF103Z50
	C761,C762,C801,C803,C811		CKSQYF103Z50
	C827,C831,C833,C841,C846		CKSQYF103Z50
	C851,C853,C861,C881-C883		CKSQYF103Z50
	C885,C924,C935,C937,C939		CKSQYF103Z50
	C945,C946,C961,C962,C974		CKSQYF103Z50
	C983		CKSQYF103Z50
	C101,C103,C122,C151,C152		CKSQYF104Z25
	C171,C172,C182,C227,C228		CKSQYF104Z25
	C267,C268,C385,C387,C392		CKSQYF104Z25
	C402,C404,C419,C430,C438		CKSQYF104Z25
	C440,C445,C447,C472,C474		CKSQYF104Z25
	C476,C508,C524,C532,C536		CKSQYF104Z25
	C538,C540,C542,C556,C557		CKSQYF104Z25
	C562,C572,C582,C586,C589		CKSQYF104Z25
	C592,C594,C620,C622		CKSQYF104Z25
	C626-C628,C630,C636,C638		CKSQYF104Z25
	C660,C681-C683,C764,C805		CKSQYF104Z25
	C857,C858,C866,C886		CKSQYF104Z25
	C913-C915,C919,C963,C976		CKSQYF104Z25

Mark	No.	Description	Part No.
	C186,C685,C855,C926,C938		CKSQYF223Z50
	C377,C378,C393,C908,C909		CKSQYF224Z25
	C154,C156,C174,C460,C826		CKSQYF473Z50
	C828,C932,C933		CKSQYF473Z50
	C923		CQMA103J50
	C903		CQMA222J50
	C265,C266		CQMA332J50
	C941		CQMZA681J50

RESISTORS

Mark	No.	Description	Part No.
	R753		RA4C221J
	R203,R751		RA4C471J
	R425,R833,R834,R837,R839		RN1/10SE1002D
	R891,R892		RN1/10SE1002D
	R152,R156		RN1/10SE1003D
	R532		RN1/10SE1100D
	R531		RN1/10SE1800D
	R151,R893,R894		RN1/10SE3302D
	R153,R154,R259-R262		RN1/10SE4702D
	VR450	(2.2kΩ)	PCP1025
	VR603	(4.7kΩ)	PCP1028
	VR604,VR605,VR607,VR609	(47kΩ)	PCP1031
	Other Resistors		RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN312	6P FFC CONNECTOR	52045-0645
	CN103,CN311	10P FFC CONNECTOR	52045-1045
	CN301	15P FFC CONNECTOR	52045-1545
	CN802	11P TOP POST	B11P-SHF-1AA
	CN215	KR CONNECTOR	B2B-PH-K-E
	CN104,CN208	KR CONNECTOR	B2B-PH-K-S
	CN803	3P TOP POST	B3P-SHF-1AA
	CN101	B TO B CONNECTOR 12P	BTFN12S-3SB7
	CN102	B TO B CONNECTOR 12P	BTFN20S-3SB7
	JA331	OPTICAL MODULE	GP1F32T
		PCB BINDER	VEF1040
	JA252	4P PIN JACK	VKB1070
	JA251	1P PIN JACK	VKB1074
		64P IC SOCKET	VKH1004
	CN502	26P FFC CONNECTOR	VKN1202
	CN801	27P FFC CONNECTOR	VKN1203
	CN121	30P FFC CONNECTOR	VKN1206
		SCREW TERMINAL	VNE1948
	X101	CERAMIC RESONATOR(9.00MHz)	VSS1040
	X311	CRYSTAL RESONATOR(16MHz)	VSS1081
	X312	CHIP CRYSTAL(36.86MHz)	VSS1085
	X505	CRYSTAL RESONATOR(14MHz)	VSS1103
		SCREW	BBZ30P060FCC

N JCKB ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC321,IC322		TC74HCU04AF
	D341		MA111

COILS

Mark	No.	Description	Part No.
	L322,L326		LAU1R0J
	L321,L324		LAU220J
	L323,L325	PAL TRANS.	PTL1003

CAPACITORS

Mark	No.	Description	Part No.
	C322,C324,C326,C328		CEAL470M16
	C323,C327,C341-C345		CKSQYF103Z50
	C3460,C3480		CKSQYF104Z25

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	JA321,JA322	REMOTE CONTROL JACK	RKN1004
	JA324	1P PIN JACK	VKB1074
	JA323	1P PIN JACK	VKB1097
		SCREW TERMINAL	VNE1948

O DVD MAIN ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC631,IC981		BA10393F
	IC851		BA6797FP
	IC901		CXA2521AQ
	IC801		CXD2545Q
	IC101		HD6417032F20
	IC162		HM514800CJ-7
	IC995		IR3C07N
	IC531,IC535		MB81C4256A-70PJ
	IC551		MC14577CF
	IC231,IC621,IC781,IC931		NJM2100M
	IC671,IC672,IC732,IC791,IC971		NJM2904M
	IC831,IC911		NJM4580M
	IC601		PA0065AM
	IC161		PD4695A
	IC501		PD4696A
	IC201		PD4784A
	IC165		PD4795A
	IC104		PDK022A
⚠	IC381		TA78M08F
	IC471,IC815,IC820		TC4W53F
	IC102		TC558128AJ-20
	IC204		TC74HC20AF
	IC972		TC74HC4052AF
	IC921		TC74HC4053AF
	IC832		TC74HC4066AF
	IC202		TC74HC573AF
	IC641,IC761		TC74HCU04AF
	IC302		TC7S04F
	IC105		TC7SH02F
	IC106		TC7SH32F
	IC311		TC7ST08F
	IC751		TLC272CPS
	IC731		TLC5540INS
	IC421		UPD4516161G5-A12-7JF
	IC401		UPD61021
	IC1030		VYW1515
	IC2050		VYW1516
	IC301		ZR38521
	Q473,Q481-Q485,Q551,Q552		2PB709A
	Q561,Q562,Q591,Q667,Q702		2PB709A
	Q705,Q708,Q741,Q792,Q814		2PB709A
	Q848,Q857,Q893		2PB709A
	Q382,Q383,Q471,Q472		2PD601A
	Q571-Q573,Q605,Q669,Q701		2PD601A
	Q742,Q771,Q773,Q793,Q845,Q851		2PD601A
	Q914,Q916,Q925,Q936,Q946		2PD601A
	Q381		2SB1260
	Q712-Q715		2SC3802K
	Q103		DTA114EK
	Q104,Q617,Q618,Q772,Q811		DTC114EK
	Q101,Q102,Q105		DTC114TK
	Q886,Q887,Q894		DTC124EK
	D786,D787,D818		1SS355
	D771,D921,D981,D982		DAN202K
	D110		EC10QS04
	D761		KV1410
	D101		RB501V-40
	D640		UDZ2.0B

COILS AND FILTERS

Mark	No.	Description	Part No.
	L321	CHIP SOLID INDUCTOR	ATL7001
	L101-L104	CHIP INPEDER	DTL1028
	F541	DVD VIDEO FILTER	VTF1072
	F535,F536,F538,F539	FERRITE BEAD	VTF1073
	F537	FERRITE BEAD	VTF1074
	F1491	FERRITE BEAD	VTF1075
	F420,F523	FERRITE BEAD	VTF1076
	F199	FERRITE BEAD	VTF1077
	F704	CHIP SOLID INDUCTOR	VTF1078
	F390-F399	FERRITE BEAD	VTF1079
	F147,F181-F188	FERRITE BEAD	VTF1080
	L431,L432,L471,L591	CHIP COIL(22µH)	VTL1058
	L701,L761,L801	CHIP COIL(22µH)	VTL1058
	L762	CHIP COIL(1.5µH)	VTL1059
	L501,L592	CHIP COIL(0.15µH)	VTL1060
	L502,L723	CHIP COIL(10µH)	VTL1061
	L401	CHIP COIL(22µH)	VTL1062
	L421	CHIP COIL(47µH)	VTL1063

CAPACITORS

Mark	No.	Description	Part No.
	C509		CCSRCH100D50
	C800		CCSRCH101J50
	C601-C604,C606,C904		CCSRCH121J50
	C902,C903		CCSRCH151J50
	C723		CCSRCH180J50
	C620		CCSRCH181J50
	C716,C810,C917		CCSRCH221J50
	C508,C618		CCSRCH270J50
	C765		CCSRCH330J50
	C914		CCSRCH390J50
	C862-C864		CCSRCH391J50
	C730,C814		CCSRCH470J50
	C616,C681		CCSRCH471J50
	C724		CCSRCH560J50
	C556,C566,C714		CCSRCH5R0C50
	C634,C806,C854,C855		CCSRCH680J50
	C107,C108		CCSRCH7R0C50
	C813		CCSRCH820J50
	C476		CCSRCH910J50
	C116,C151,C159,C162,C180		CEV101M6R3

Mark	No.	Description	Part No.
	C401, C420, C430-C440		CEV101M6R3
	C500, C501, C523, C532, C533		CEV101M6R3
	C536-C540, C801, C821		CEV101M6R3
	C755		CEV1R0M50
	C325, C384, C571, C592, C857		CEV220M16
	C859		CEV220M16
	C611, C712, C731, C733, C900		CEV220M6R3
	C912, C919, C994		CEV220M6R3
	C179, C201, C321, C327, C396		CEV470M6R3
	C493, C517, C591, C701, C804		CEV470M6R3
	C996		CEV470M6R3
	C720, C787		CEVNP100M16
	C789		CEVNP2R2M35
	C908		CFHS333J16
	C788, C839, C840		CFHS473J16
	C884, C885, C907		CFHSP104J16
	C686, C909		CFHSQ103J16
	C882, C883		CFHSQ272J50
	C677		CFHSQ822J16
	C843, C844, C894		CKSQYB104K25
	C615, C680, C713, C718, C742		CKSQYB105K10
	C746, C747, C751, C811		CKSQYB105K10
	C815, C817		CKSQYB224K16
	C759, C893		CKSQYB474K16
	C206, C207, C441-C446, C519		CKSQYF225Z16
	C527-C530		CKSQYF225Z16
	C749, C766		CKSRYB102K50
	C101, C121, C169, C178		CKSRYB103K50
	C471, C472, C574, C605, C617		CKSRYB103K50
	C676, C700, C711, C762, C764		CKSRYB103K50
	C816, C830, C832, C837, C838		CKSRYB103K50
	C853, C861, C881, C906		CKSRYB103K50
	C997-C999		CKSRYB103K50
	C983, C984		CKSRYB104K16
	C809		CKSRYB152K50
	C692		CKSRYB153K50
	C641-C644, C649, C819		CKSRYB222K50
	C931, C932		CKSRYB222K50
	C847		CKSRYB332K50
	C741		CKSRYB472K50
	C735, C808		CKSRYB473K16
	C102-C106, C109-C111		CKSRYF104Z16
	C113-C115, C120, C155-C158		CKSRYF104Z16
	C160, C161, C163-C167		CKSRYF104Z16
	C170, C171, C173-C177, C181		CKSRYF104Z16
	C184-C187, C191, C192		CKSRYF104Z16
	C202-C205, C209, C231		CKSRYF104Z16
	C300-C303, C305-C307, C309		CKSRYF104Z16
	C311, C322, C326, C328		CKSRYF104Z16
	C382, C383, C391-C393, C395		CKSRYF104Z16
	C397, C399, C402-C417		CKSRYF104Z16
	C421-C426, C473-C475, C481		CKSRYF104Z16
	C483, C484, C491, C492		CKSRYF104Z16
	C502-C507, C510-C516, C518		CKSRYF104Z16
	C520-C522, C526, C531, C535		CKSRYF104Z16
	C553-C555, C563, C565		CKSRYF104Z16
	C572, C573, C577, C596, C607		CKSRYF104Z16
	C612, C613, C621, C630, C631		CKSRYF104Z16
	C640, C671, C675, C683		CKSRYF104Z16
	C702-C704, C721, C732, C734		CKSRYF104Z16
	C738, C739, C750, C761, C781		CKSRYF104Z16
	C799, C802, C803, C805, C812		CKSRYF104Z16
	C818, C820, C822, C823, C829		CKSRYF104Z16
	C831, C858, C901, C911, C918		CKSRYF104Z16
	C921, C930, C971, C972		CKSRYF104Z16
	C980-C982, C995		CKSRYF104Z16
	VC510, VC765	(20pF)	VCM1008

RESISTORS

Mark	No.	Description	Part No.
	R109, R110, R112, R195		RA4C103J
	R414-R419, R920		RA4C103J
	R101-R106, R148, R153-R157		RA4C220J
	R161, R162, R201, R202		RA4C220J
	R251-R257, R266, R274		RA4C220J
	R401, R402, R404, R405, R421		RA4C220J
	R423, R424, R4290, R4300		RA4C220J
	R461, R462, R501, R502		RA4C220J
	R998		RA4C390J
	R723, R2510, R2620, R2630		RS1/10S0R0J
	R2640, R4910		RS1/10S0R0J
	R892		RS1/10S1R2J
	R573		RS1/16S1001F
	R862, R863, R866, R867		RS1/16S1002F
	R149, R166, R477, R693		RS1/16S1003F
	R762, R763, R766, R786, R790		RS1/16S1003F
	R814, R817, R846, R873, R876, R999		RS1/16S1003F
	R383, R864, R865		RS1/16S1202F
	R781, R782, R788, R900-R903		RS1/16S1502F
	R580, R582, R783, R784		RS1/16S2202F
	R835-R840, R871, R872, R893		RS1/16S2202F
	R914, R916, R936, R946		RS1/16S2202F
	R232, R236, R793, R794		RS1/16S2203F
	R884, R885, R989, R990		RS1/16S2203F
	R712, R720, R857		RS1/16S3901F
	R798, R800, R829, R830, R843, R844		RS1/16S4702F
	R854, R855, R925, R927, R928		RS1/16S4702F
	R945		RS1/16S4702F
	R778, R833, R834		RS1/16S4703F
	R575, R741, R742		RS1/16S5601F
	R831, R832		RS1/16S5602F
	R874, R877		RS1/16S6802F
	R882, R883		RS1/16S8202F
	VR501	(4.7KΩ)	VCP1090
	VR904, VR921	(10KΩ)	VCP1092
	VR621, VR938	(22KΩ)	VCP1094
	VR922	(10KΩ)	VCP1131
	Other Resistors		RS1/16S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN161, CN271	PH CONNECTOR	S2B-PH-SM3
		32P IC SOCKET	VKH1011
		44P IC SOCKET	VKH1012
	CN601, CN602	B TO B CONNECTOR 60P	VKN1293
	CN109	7P FFC CONNECTOR	VKN1299
	CN101	13P FFC CONNECTOR	VKN1305
	CN391	24P FFC CONNECTOR	VKN1316
	CN902	B TO B CONNECTOR 14P	VKN1324
	CN261, CN502, CN702	26P FFC CONNECTOR	VKN1345

Mark	No.	Description	Part No.
	CN251	30P FFC CONNECTOR	VKN1349
		INSPECTION LABEL	VRW1634
	X501	CHIP CRYSTAL(27.00MHz)	VSS1086
	X201	CHIP CERAMIC(5.00MHz)	VSS1102
	X301	CHIP CERAMIC(33.000MHz)	VSS1105
	X101	CHIP CERAMIC(20.00MHz)	VSS1106

P FTSB ASSY

SEMICONDUCTORS

	IC204, IC306, IC403		BA10393F
	IC301		MC14577CF
	IC302, IC303, IC305, IC401		NJM072BM
	IC205		NJM2100M
	IC304, IC402		NJM4580M
	Q301,Q309,Q401-Q403		2PB709A
	Q302,Q303,Q305,Q404		2PD601A
	Q304,Q308		DTC114EK
	D205,D206,D303,D305-D307		1SS355
	D310,D401,D402		1SS355
	D308		DAN202K

CAPACITORS

	C316		CCSRCH101J50
	C401,C501		CEV100M16
	C303		CFHS473J16
	C306,C408		CFHSQ471J50
	C209,C210,C305		CKSQYB105K10
	C308,C403,C406		CKSRYB102K50
	C311		CKSRYB472K50
	C313		CKSRYB473K16
	C201,C211,C302,C304,C307		CKSRYF104Z16
	C309,C312,C314,C315,C402		CKSRYF104Z16
	C404,C407		CKSRYF104Z16
	C310		CCSRCH101J50
	C405		CKSQYB224K16

RESISTORS

	R322		RS1/16S1001F
	R405		RS1/16S1801F
	R406		RS1/16S4701F
	R321		RS1/16S5601F
	Other Resistors		RS1/16S☐☐☐J

OTHERS

	CN101,CN102	B TO B CONNECTOR 30P	VKN1294

Q MYCB ASSY

SEMICONDUCTORS

	IC301		CXD2046Q
	IC102, IC103		MB81C1501PF
	IC101		PD3212A
	Q402,Q404,Q407,Q411,Q414		2PB709A
	Q401,Q403,Q412,Q413		2PD601A
	Q408-Q410,Q415,Q416		2SC1740S
	Q417,Q420		DTA124EK
	Q418,Q419,Q421		DTC124EK

Mark	No.	Description	Part No.

COILS

	L401-L403		LAU220J

CAPACITORS

	C433		CCSQCH100D50
	C401,C404		CCSQCH220J50
	C405		CCSQCH470J50
	C403		CCSQCH560J50
	C402		CCSQCH6R0D50
	C411		CCSQCH910J50
	C101,C103,C109,C111,C113		CEAS101M10
	C115,C212,C214,C216,C301		CEAS101M10
	C305,C309,C311,C317,C319		CEAS101M10
	C422,C424,C426,C429,C431		CEAS101M10
	C434,C436,C438		CEAS101M10
	C303		CKSQYB102K50
	C102,C104,C110,C112,C114		CKSQYF104Z25
	C116-C118,C213,C215,C217		CKSQYF104Z25
	C302,C304,C306-C308,C310		CKSQYF104Z25
	C312-C316,C318,C320-C322		CKSQYF104Z25
	C406,C407,C413,C414,C423		CKSQYF104Z25
	C425,C427,C428,C430,C432		CKSQYF104Z25
	C435,C437,C439,C442,C447		CKSQYF104Z25

RESISTORS

	R424		RN1/10SE1801D
	R422		RN1/10SE2201D
	R309		RN1/10SE2700D
	R425		RN1/10SE2702D
	R310,R420,R421		RN1/10SE3301D
	R312,R426		RN1/10SE4701D
	R311		RN1/10SE5601D
	VR301	(22kΩ)	PCP1030
	Other Resistors		RS1/10S☐☐☐J

OTHERS

	CN104	10P FFC CONNECTOR	52045-1045
		2P PIN JACK	AKB7076
	CN101	B TO B CONNECTOR 12P	BTFN12P-3RD7
	CN102	B TO B CONNECTOR 20P	BTFN20P-3RD7
		4P MINI DIN SOCKET	VKN1078
		SCREW TERMINAL	VNE1948
		SHIELD CASE A	VNF1098
		SHIELD CASE C	VNF1100

R MCRB ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC16, IC17		NJM2100M
	IC101		PD9014A
	IC51		TC4W53F
	IC15, IC52		TC74HC4053AF
	IC11		TC74HCU04AF
	IC171		TC74VHCT374F
	IC18		TC7WU04F
	Q252, Q59		2PB709A
	Q11		2PD601A
	Q13		DTC124EK
	Q55, Q56, Q60		IMT1A
	Q254, Q51		IMX1
	Q12, Q253, Q52-Q54		IMZ1A
	Q57, Q58		IMZ1A
	D11		SVC201SPA

COILS

Mark	No.	Description	Part No.
	L271		LAU270J
	L272		LAU390J
	L273		LAU430J
	L11		LFA220J

CAPACITORS

Mark	No.	Description	Part No.
	C274, C30		CCSQCH100D50
	C22		CCSQCH180J50
	C15		CCSQCH221J50
	C275, C277		CCSQCH330J50
	C276		CCSQCH390J50
	C171, C173, C174, C179		CCSQCH470J50
	C24		CCSQCH910J50
	C16, C19		CEJA101M10
	C1, C110, C122, C126, C152		CEJA470M10
	C2, C208, C301, C305, C306		CEJA470M10
	C313, C4, C52, C53, C55		CEJA470M10
	C62, C64		CEJA470M10
	C12		CFTXA104J50
	C13		CFTXA334J50
	C11, C18, C20, C25, C26		CKSQYF103Z50
	C500		CKSQYF103Z50
	C107, C109, C113, C115, C121		CKSQYF104Z25
	C125, C153, C17, C207, C215		CKSQYF104Z25
	C217, C219, C220, C255, C28		CKSQYF104Z25
	C302-C304, C307-C312, C314		CKSQYF104Z25
	C51, C54, C56-C61, C65		CKSQYF104Z25
	C67		CKSQYF104Z25
	C14		CQMZA682J50
	VC11	(20pF)	VCM-008

RESISTORS

Mark	No.	Description	Part No.
	R52		RN1/10SE1801D
	R51		RS1/10S1000F
	R74		RS1/10S1001F
	R77		RS1/10S10R0F
	R71		RS1/10S1501F
	R72		RS1/10S1802F
	R76		RS1/10S27R0F
	R79		RS1/10S3300F
	R80		RS1/10S3900F
	R78		RS1/10S39R0F
	R73		RS1/10S47R0F
	R75		RS1/10S5600F
	R81		RS1/10S68R0F
	Other Resistors		RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	X11	CRYSTAL(3.579545MHz)	VSS1107
		PCB BINDER	VEF1040
	CN12	26P FFC CONNECTOR	VKN1202
		EARTH METAL FITTING	VNF1084

6. ADJUSTMENT (調整方法)

6.1 ADJUSTMENT ITEMS AND LOCATION (調整項目と調整位置)

■Adjustment Items

[Mechanical Part]

CLD

- ❶ Tilt Offset Adjustment
  (チルトオフセット調整)
- ❷ Tangential Direction Angle Adjustment for Side A
  (A面タンジェンシャル傾き調整)
- ❸ Spindle Motor Centering Adjustment for Side A
  (A面スピンドル芯出し調整)
- ❹ Crosstalk Check and Fine Tilt Offset Adjustment for Side A
  (A面クロストーク確認及び，チルトオフセット微調整)
- ❺ Focus Servo Loop Gain Adjustment
  (フォーカスサーボループゲイン調整)
- ❻ Tracking Servo Loop Gain Adjustment
  (トラッキングサーボループゲイン調整)
- ❼ Tangential Direction Angle Adjustment for Side B
  (B面タンジェンシャル傾き調整)
- ❽ Spindle Motor Centering Adjustment for Side B
  (B面スピンドル芯出し調整)
- ❾ Crosstalk Check and Fine Tilt Offset Adjustment for Side B
  (B面クロストーク確認及び，チルトオフセット微調整)

DVD

- ❿ DVD Focus S-curve Level Coarse Adjustment
  (DVDフォーカスS字レベル粗調整)
- ⓫ RF MAX Adjustment
  (RF MAX調整)
- ⓬ Jitter Adjustment
  (ジッター調整)
- ⓭ Tracking Error Level Adjustment
  (トラッキングエラーレベル調整)
- ⓮ DVD Focus S-curve Level Fine Adjustment
  (DVDフォーカスS字レベル微調整)

[Electricall Part]

CLD

- ① Video Level Adjustment
  (ビデオレベル調整)
- ② PLL Offset Adjustment
  (PLLオフセット調整)
- ③ Y Output Level Adjustment
  (Y出力レベル調整)

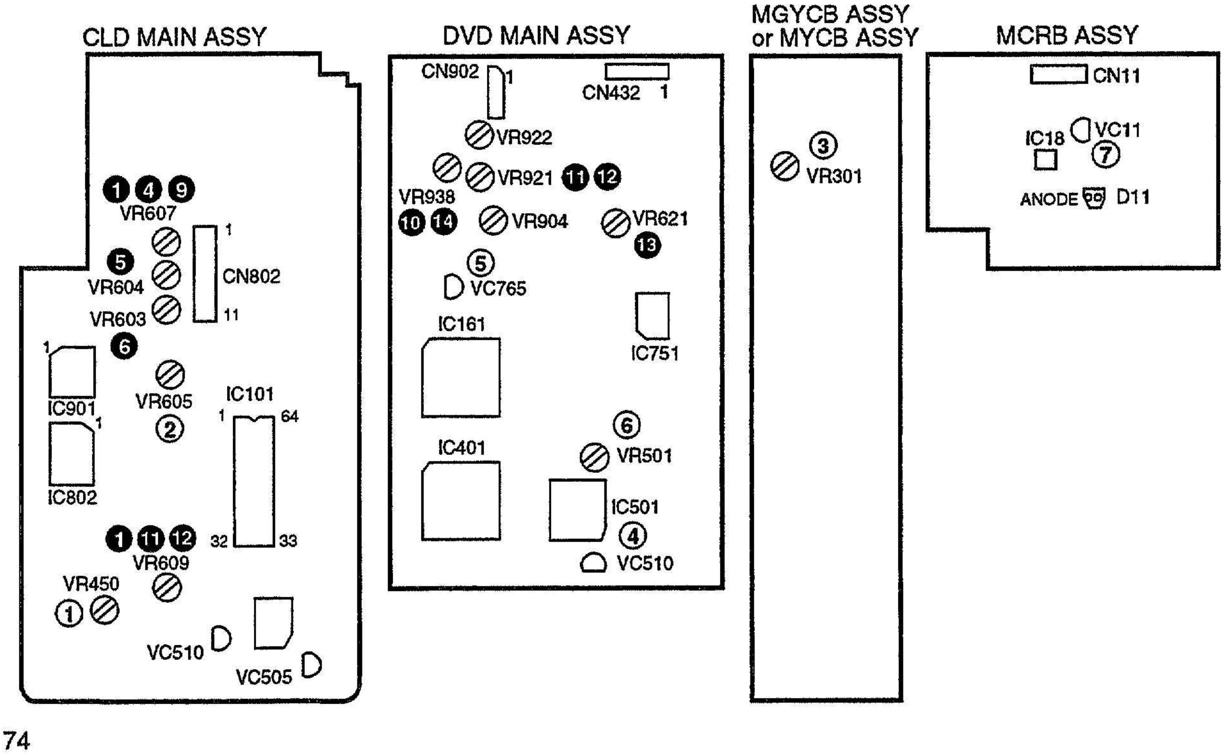
DVD

- ④ Master Clock Adjustment
  (マスタークロック調整)
- ⑤ VCO Offset Adjustment
  (VCOオフセット調整)
- ⑥ Video Output Adjustment
  (ビデオ出力調整)

MCRB

- ⑦ MCRB Master CLK Adjustment
  (MCRBマスターCLK調整)

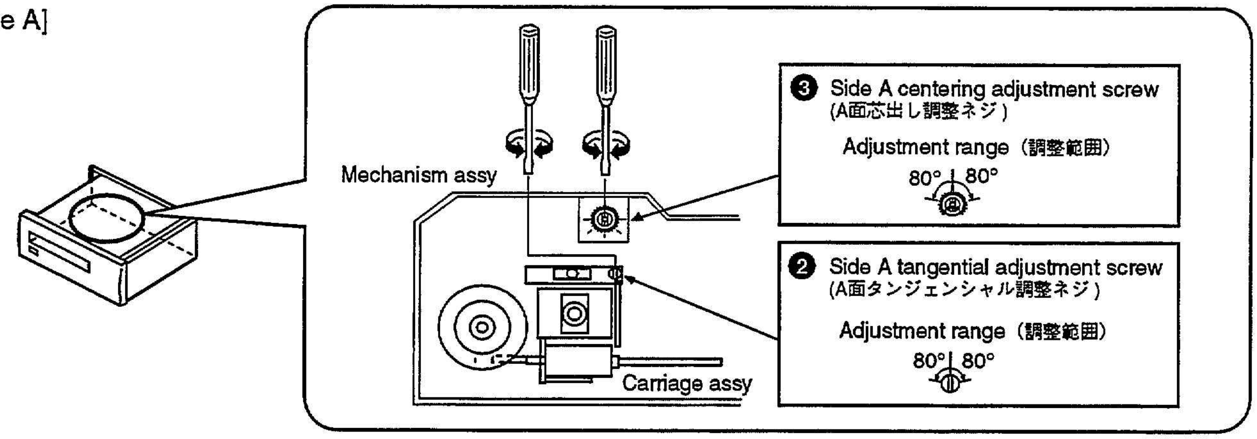
■Adjustment Points (PCB Part)


CLD MAIN ASSY
❶❹❾
VR607
❺
VR604
VR603
❻
1
CN802
11
1
IC901
1
IC802
VR605
②
IC101
1
64
32
33
❶⓫⓬
VR609
VR450
①
VC510
VC505
DVD MAIN ASSY
CN902
1
CN432
1
VR922
VR921 ⓫⓬
VR938
❿⓮
VR904
VR621
⓭
⑤
VC765
IC161
IC751
IC401
⑥
VR501
IC501
④
VC510
MGYCB ASSY
or MYCB ASSY
③
VR301
MCRB ASSY
CN11
IC18
VC11
⑦
ANODE
D11

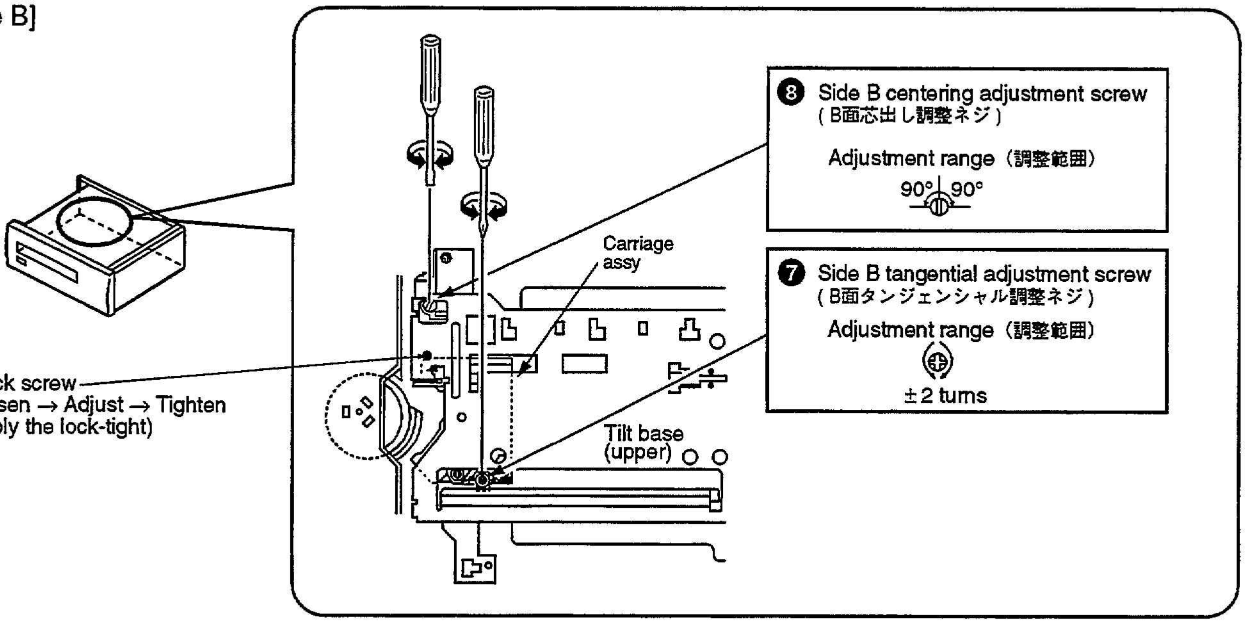
■Adjustment Points (Mechanism Part)

CLD

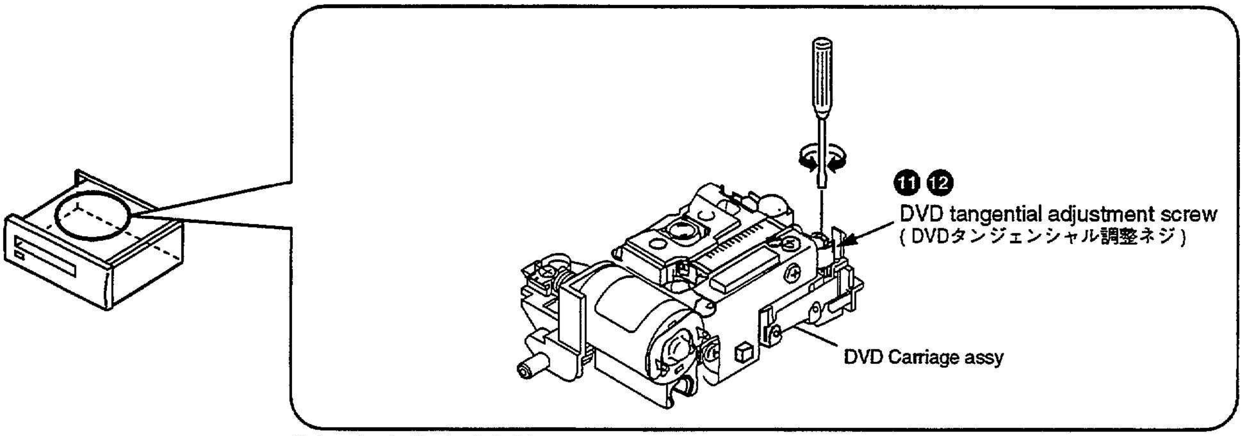
[Side A]


Mechanism assy
❸ Side A centering adjustment screw
(A面芯出し調整ネジ)
Adjustment range（調整範囲）
80° 80°
❷ Side A tangential adjustment screw
(A面タンジェンシャル調整ネジ)
Adjustment range（調整範囲）
80° 80°
Carriage assy

[Side B]

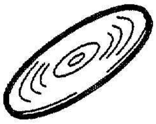
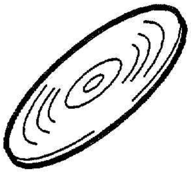
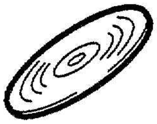
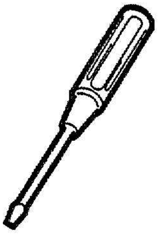
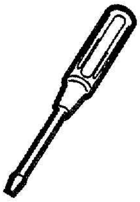
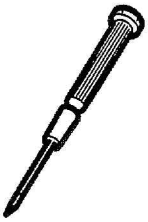
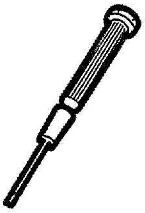
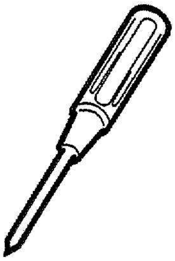
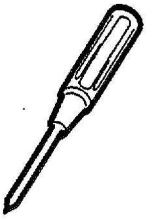
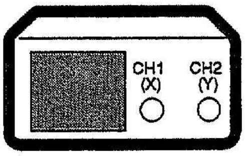
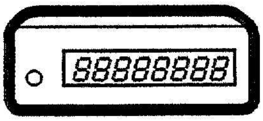
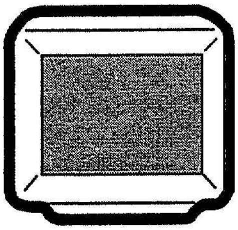
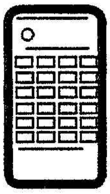
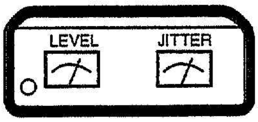
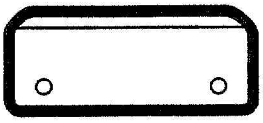

❽ Side B centering adjustment screw
(B面芯出し調整ネジ)
Adjustment range（調整範囲）
90° 90°
Carriage assy
❼ Side B tangential adjustment screw
(B面タンジェンシャル調整ネジ)
Adjustment range（調整範囲）
±2 turns
Black screw
Loosen → Adjust → Tighten
(apply the lock-tight)
Tilt base (upper)

DVD


⓫⓬
DVD tangential adjustment screw
(DVDタンジェンシャル調整ネジ)
DVD Carriage assy

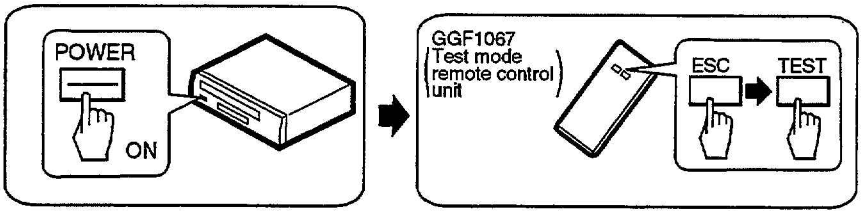
Note : Apply the lock-tight.
(調整ネジは，調整後ボンドロックする.)

6.2 JIGS AND MEASURING INSTRUMENTS (調整に必要な治工具類)

 CD test disc (YEDS-7)	 LD test disc (GGV1012)	 DVD test disc (DVD-MJK1)	 ⊖ Screwdriver (medium)
 ⊖ Screwdriver (small)	 ⊕ Precise screwdriver	 ⊖ Precise screwdriver	 ⊕ Screwdriver (large)
 ⊕ Screwdriver (medium)		 Dual-trace oscilloscope (with delay) Frequency band ≧ 40MHz	 Frequency counter Display digit ≧ 8-digit
 TV monitor	 Test mode remote control unit (GGF1067)	 Jitter meter	 Equalizer unit

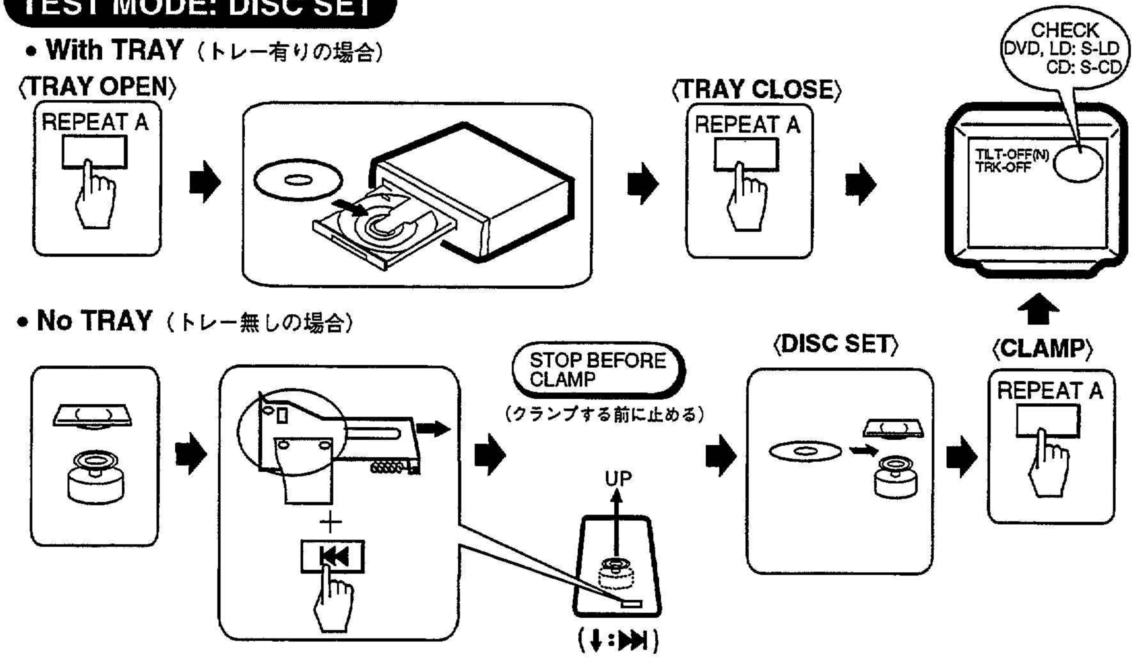
6.3 TEST MODE（テストモード）

TEST MODE: ON

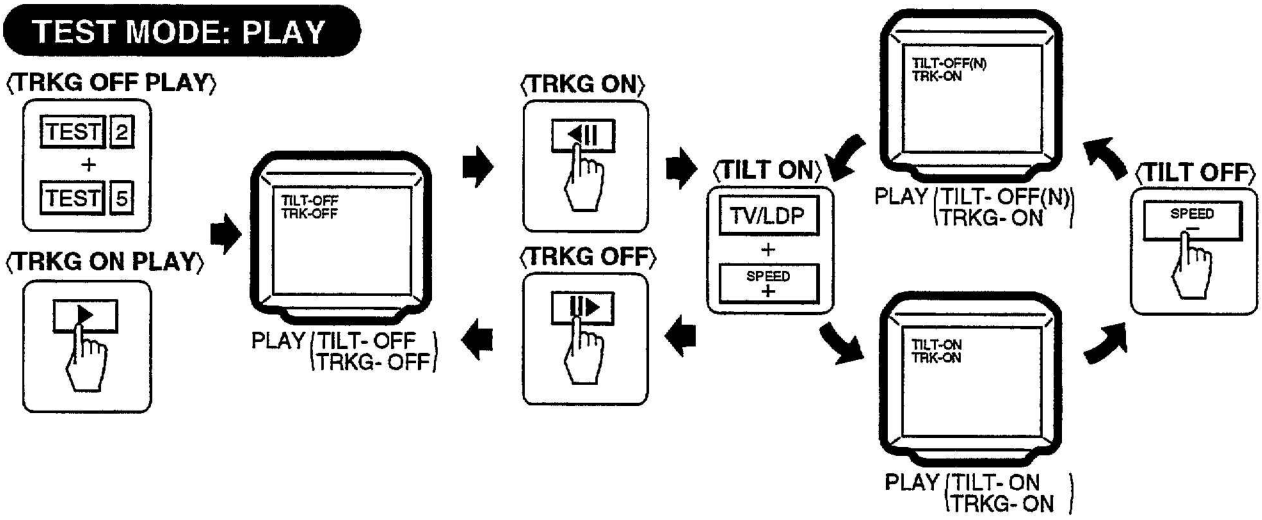

POWER
ON
GGF1067
Test mode remote control unit
ESC
TEST

TEST MODE: DISC SET

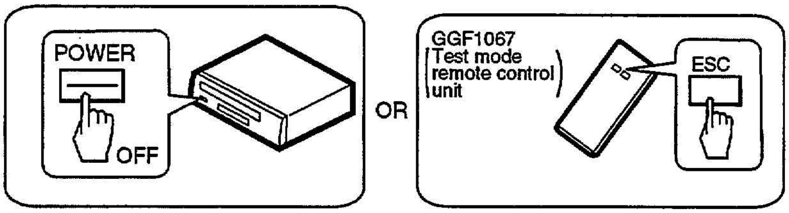
- **With TRAY**（トレー有りの場合）


CHECK
DVD, LD: S-LD
CD: S-CD
〈TRAY OPEN〉
REPEAT A
〈TRAY CLOSE〉
REPEAT A
TILT-OFF(N)
TRK-OFF
• No TRAY（トレー無しの場合）
STOP BEFORE CLAMP
（クランプする前に止める）
+
UP
(↓:⏭)
〈DISC SET〉
〈CLAMP〉
REPEAT A

TEST MODE: PLAY


〈TRKG OFF PLAY〉
TEST 2
+
TEST 5
〈TRKG ON PLAY〉
TILT-OFF
TRK-OFF
PLAY (TILT- OFF / TRKG- OFF)
〈TRKG ON〉
〈TRKG OFF〉
〈TILT ON〉
TV/LDP
+
SPEED +
TILT-OFF(N)
TRK-ON
PLAY (TILT- OFF(N) / TRKG- ON)
〈TILT OFF〉
SPEED −
TILT-ON
TRK-ON
PLAY (TILT- ON / TRKG- ON)

TEST MODE: OFF


POWER
OFF
OR
GGF1067
Test mode remote control unit
ESC

6.4 NECESSARY ADJUSTMENT POINTS (必要な調整項目)

■ EXCHANGE MECHANISM ASSY PARTS
(メカASSY部品を交換したとき)

When (このような時)		Adjustment Points
Exchange pickup (CLD) (CLDのピックアップを交換したとき)	Mechanical point	❶,❷,❸,❹,❺,❻,❼,❽,❾
	Electric point	—
Exchange pickup (DVD) (DVDのピックアップを交換したとき)	Mechanical point	❿,⓫,⓬,⓭,⓮
	Electric point	—
Exchange spindle motor (スピンドルモータを交換したとき)	Mechanical point	❸,❽
	Electric point	—

■ EXCHANGE PCB ASSY
(PCB ASSYを交換したとき)

When (このような時)		Adjustment Points
Exchange board CLD MAIN ASSY (マザーボードを交換したとき)	Mechanical point	❶,❹,❺,❻,❾
	Electric point	—

Note : ①, ② and ③ are adjusted already. (①,②,③は調整済)

When (このような時)		Adjustment Points
Exchange board DVD MAIN ASSY (マザーボードを交換したとき)	Mechanical point	❿,⓫,⓬,⓭,⓮
	Electric point	—

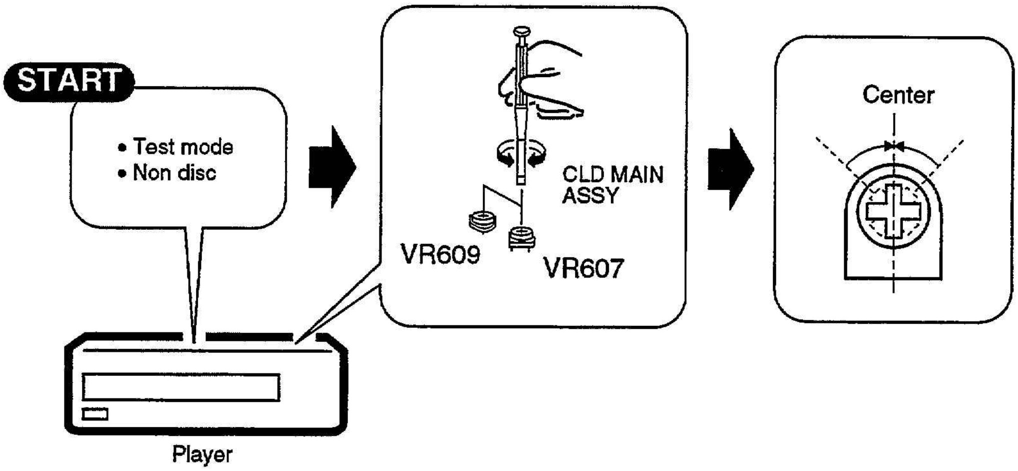
Note : ④, ⑤ and ⑥ are adjusted already. (④,⑤,⑥は調整済)

When (このような時)		Adjustment Points
Exchange board MCRB ASSY (MCRB ASSYを交換したとき)	Mechanical point	—
	Electric point	—

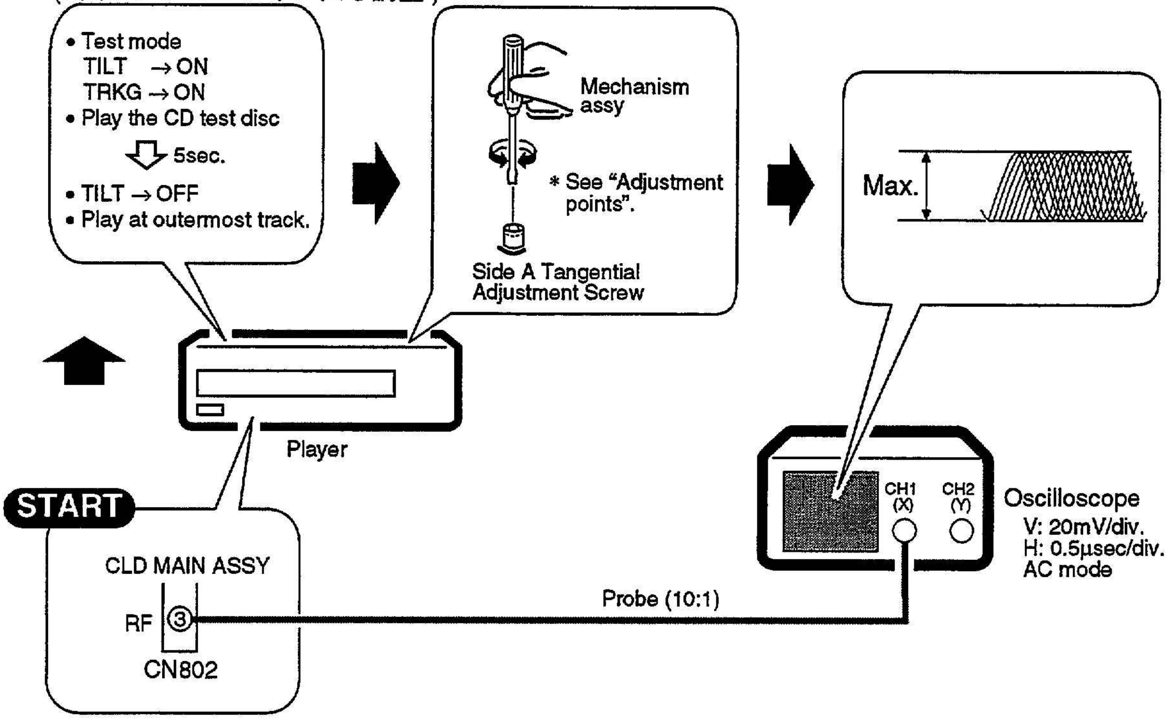
Note : ⑦ is adjusted already. (⑦は調整済)

6.5. MECHANICAL ADJUSTMENT (機構系の調整)

❶ Tilt Offset Adjustment
(チルトオフセット調整)


START
• Test mode
• Non disc
CLD MAIN ASSY
VR609
VR607
Center
Player

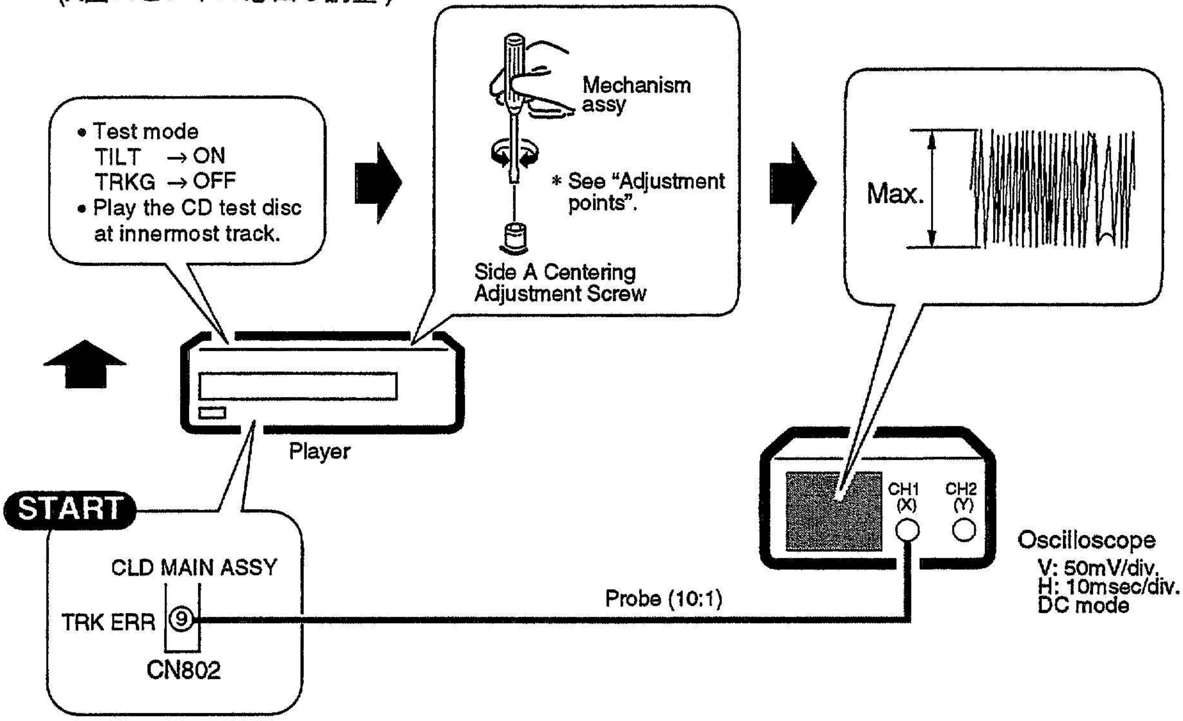
❷ Tangential Direction Angle Adjustment for Side A
(A面タンジェンシャル傾き調整)


• Test mode
TILT → ON
TRKG → ON
• Play the CD test disc
5sec.
• TILT → OFF
• Play at outermost track.
Mechanism assy
* See "Adjustment points".
Side A Tangential Adjustment Screw
Max.
Player
START
CLD MAIN ASSY
RF
③
CN802
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 20mV/div.
H: 0.5µsec/div.
AC mode

outermost : 最外周

❸ Spindle Motor Centering Adjustment for Side A

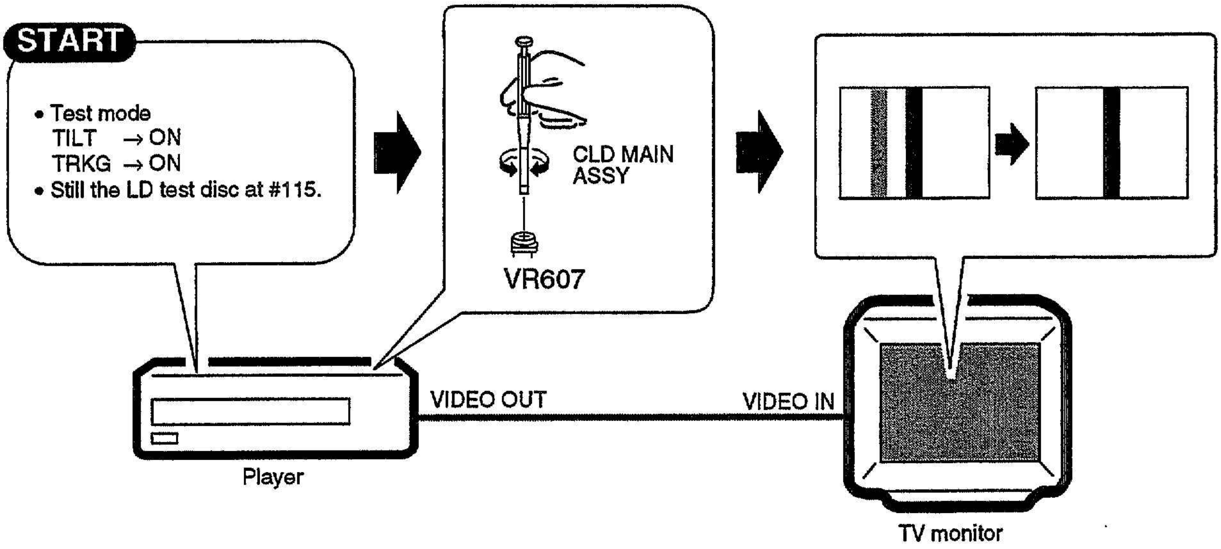
(A面スピンドル芯出し調整)


• Test mode
TILT → ON
TRKG → OFF
• Play the CD test disc at innermost track.
Mechanism assy
* See "Adjustment points".
Side A Centering Adjustment Screw
Max.
Player
START
CLD MAIN ASSY
TRK ERR
⑨
CN802
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 50mV/div.
H: 10msec/div.
DC mode

innermost : 最内周

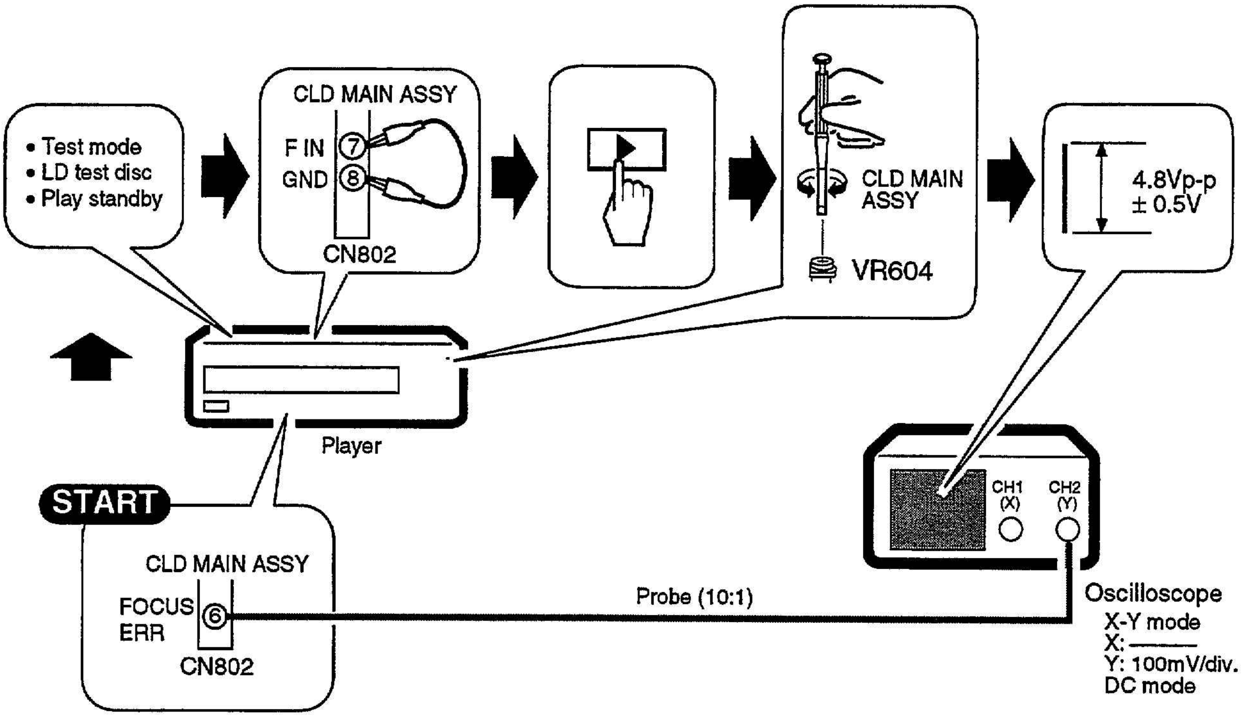
❹ Crosstalk Check and Fine Tilt Offset Adjustment for Side A

(A面クロストーク確認及び，チルトオフセット微調整)


START
• Test mode
TILT → ON
TRKG → ON
• Still the LD test disc at #115.
CLD MAIN ASSY
VR607
VIDEO OUT
VIDEO IN
Player
TV monitor

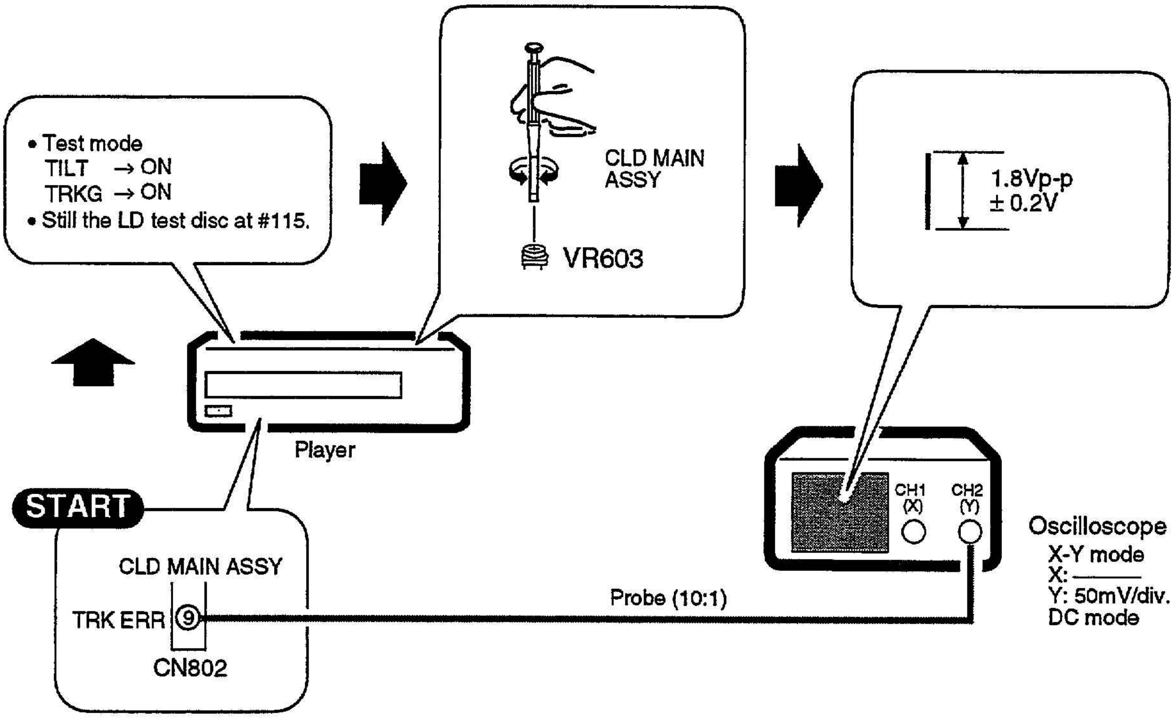
❺ Focus Servo Loop Gain Adjustment

（フォーカスサーボループゲイン調整 ）

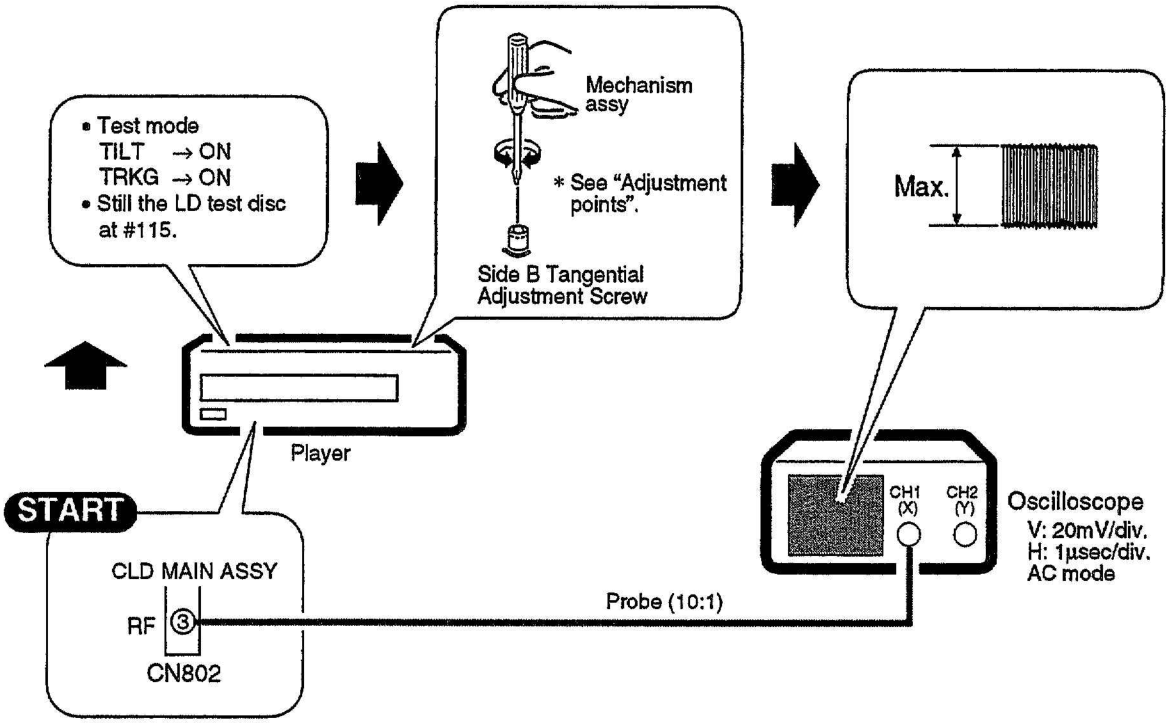

• Test mode
• LD test disc
• Play standby
CLD MAIN ASSY
F IN ⑦
GND ⑧
CN802
CLD MAIN ASSY
VR604
4.8Vp-p
± 0.5V
Player
START
CLD MAIN ASSY
FOCUS ERR ⑥
CN802
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
X-Y mode
X: ———
Y: 100mV/div.
DC mode

❻ Tracking Servo Loop Gain Adjustment

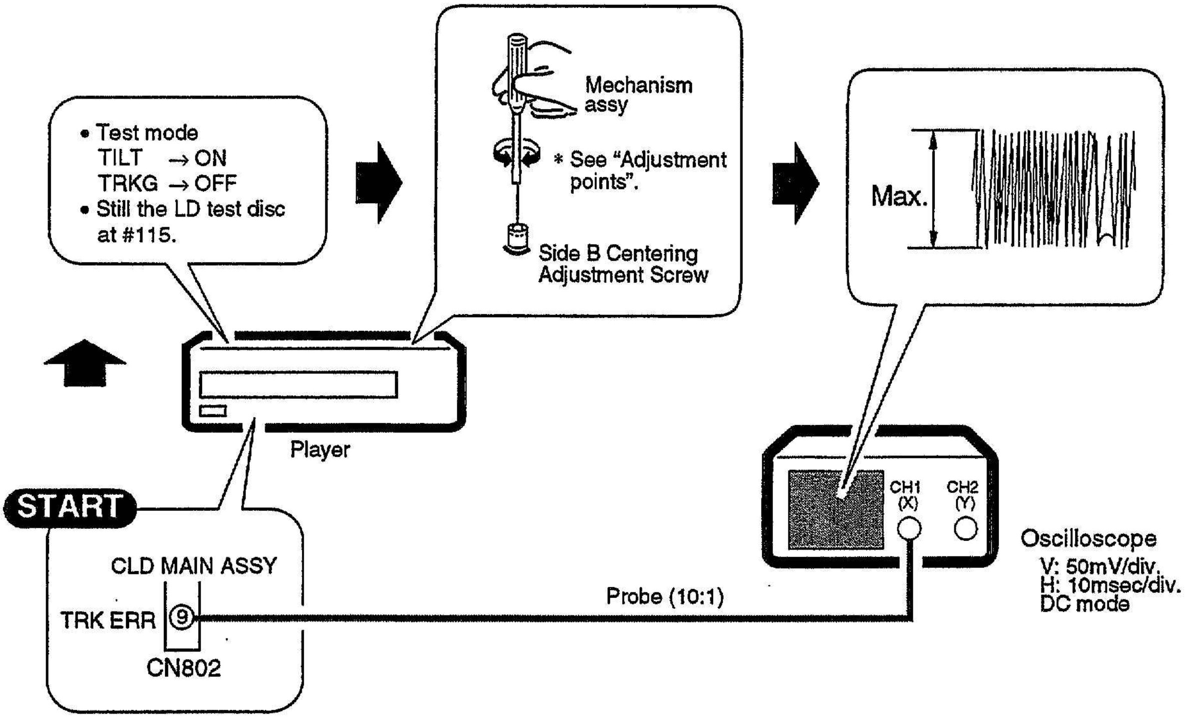
（トラッキングサーボループゲイン調整 ）


• Test mode
TILT → ON
TRKG → ON
• Still the LD test disc at #115.
CLD MAIN ASSY
VR603
1.8Vp-p
± 0.2V
Player
START
CLD MAIN ASSY
TRK ERR ⑨
CN802
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
X-Y mode
X: ———
Y: 50mV/div.
DC mode

⑦ Tangential Direction Angle Adjustment for Side B
(B面タンジェンシャル傾き調整)

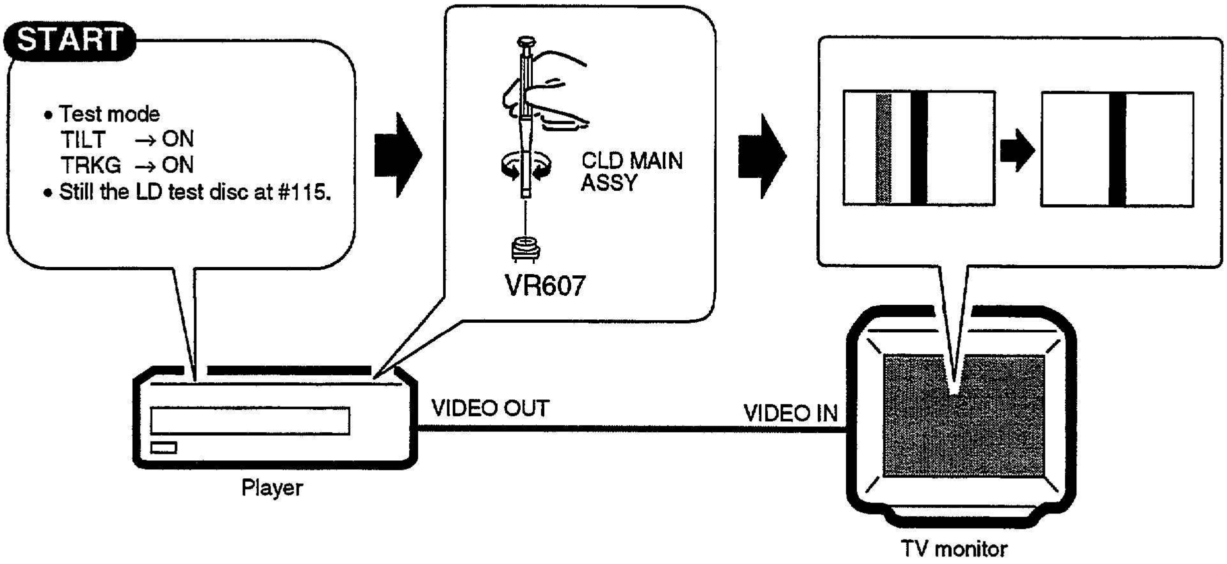

• Test mode
TILT → ON
TRKG → ON
• Still the LD test disc at #115.
Mechanism assy
* See "Adjustment points".
Side B Tangential Adjustment Screw
Max.
Player
START
CLD MAIN ASSY
RF ③
CN802
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 20mV/div.
H: 1µsec/div.
AC mode

⑧ Spindle Motor Centering Adjustment for Side B
(B面スピンドル芯出し調整)


• Test mode
TILT → ON
TRKG → OFF
• Still the LD test disc at #115.
Mechanism assy
* See "Adjustment points".
Side B Centering Adjustment Screw
Max.
Player
START
CLD MAIN ASSY
TRK ERR ⑨
CN802
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 50mV/div.
H: 10msec/div.
DC mode

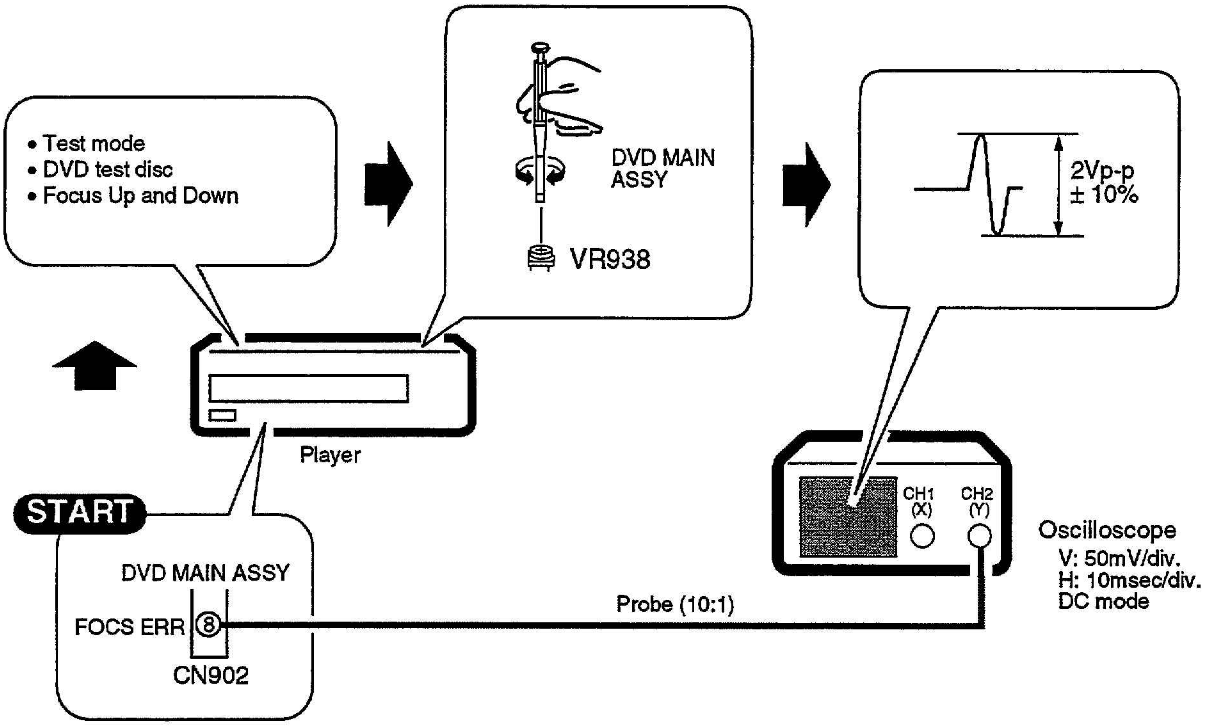
⑨ Crosstalk Check and Fine Tilt Offset Adjustment for Side B

(B面クロストーク確認及び，チルトオフセット微調整)

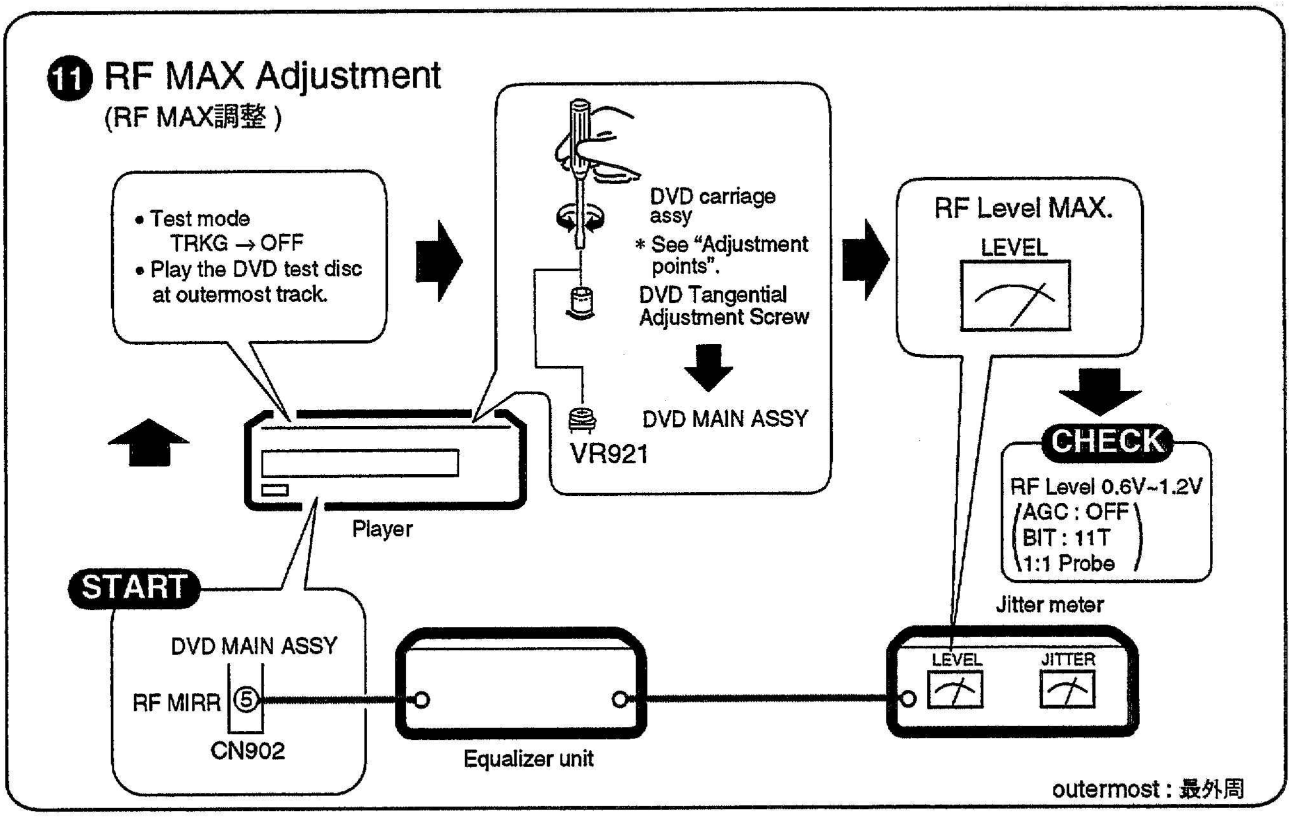

START
• Test mode
TILT → ON
TRKG → ON
• Still the LD test disc at #115.
CLD MAIN ASSY
VR607
VIDEO OUT
VIDEO IN
Player
TV monitor

⑩ DVD Focus S-curve Level Coarse Adjustment

(DVDフォーカスS字レベル粗調整)


• Test mode
• DVD test disc
• Focus Up and Down
DVD MAIN ASSY
VR938
2Vp-p
± 10%
Player
START
DVD MAIN ASSY
FOCS ERR
8
CN902
Probe (10:1)
CH1
(X)
CH2
(Y)
Oscilloscope
V: 50mV/div.
H: 10msec/div.
DC mode

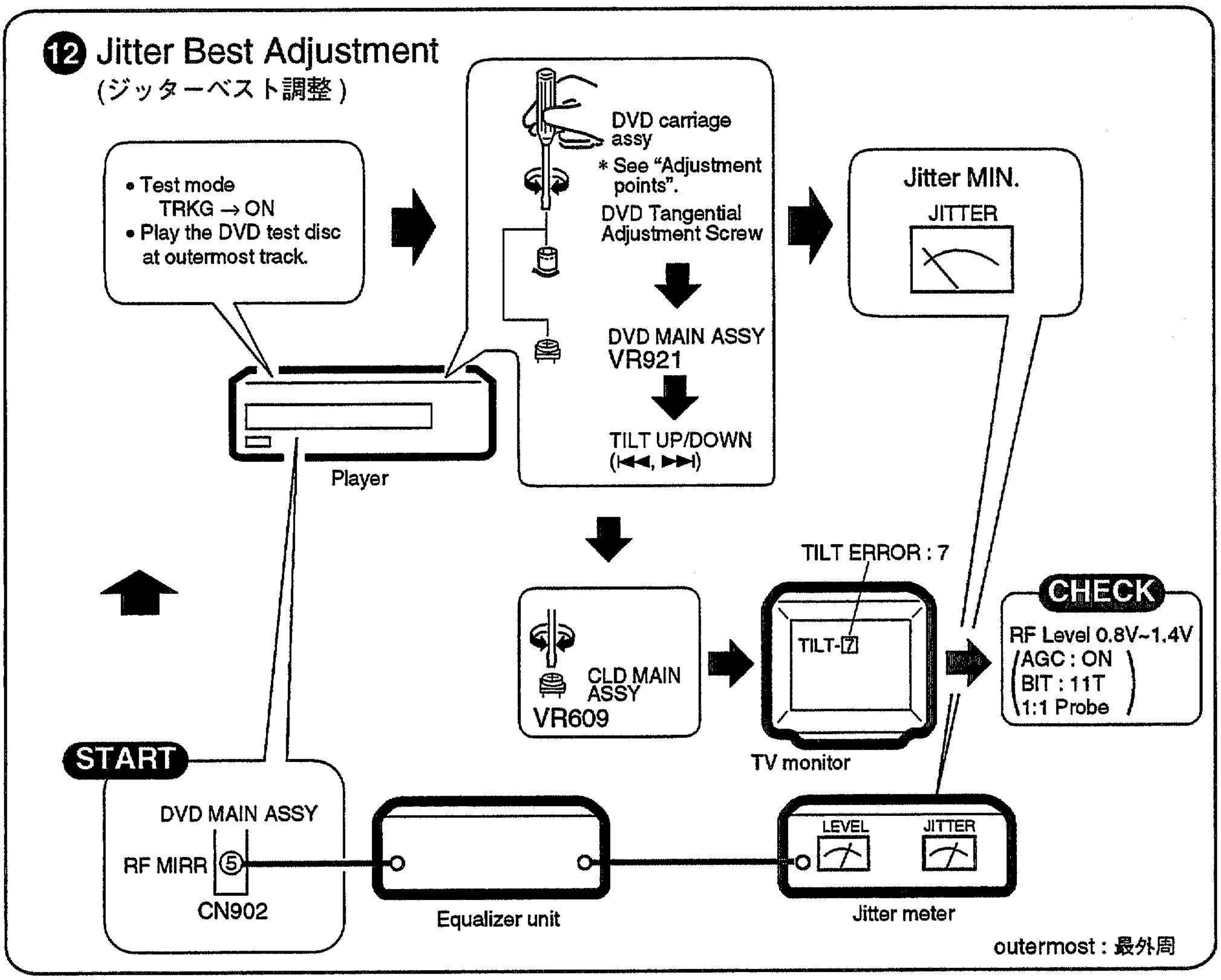
⑪ RF MAX Adjustment
(RF MAX調整)



- Test mode
  TRKG → OFF
- Play the DVD test disc at outermost track.

DVD carriage assy
＊See "Adjustment points".
DVD Tangential Adjustment Screw
DVD MAIN ASSY
VR921
RF Level MAX.
LEVEL
CHECK
RF Level 0.6V~1.2V
(AGC : OFF
BIT : 11T
1:1 Probe)
Player
START
DVD MAIN ASSY
RF MIRR
⑤
CN902
Equalizer unit
LEVEL
JITTER
Jitter meter
outermost : 最外周

⑫ Jitter Best Adjustment
(ジッターベスト調整)

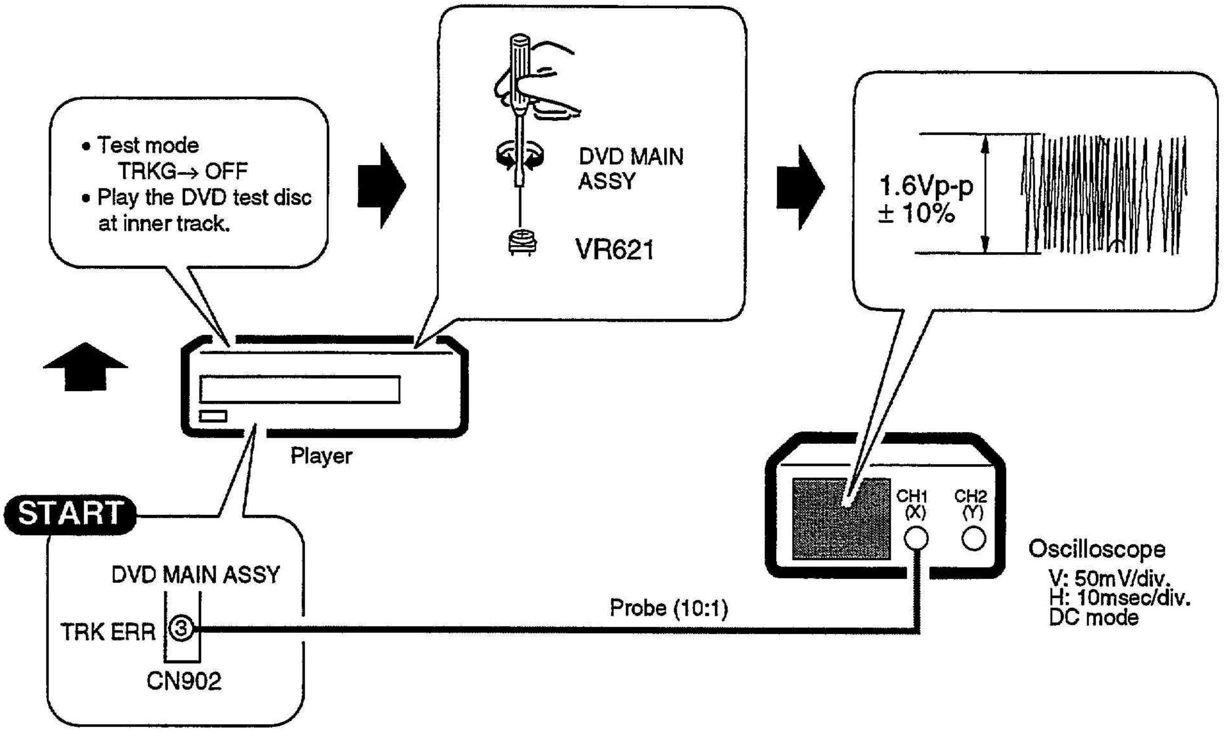


- Test mode
  TRKG → ON
- Play the DVD test disc at outermost track.

DVD carriage assy
＊See "Adjustment points".
DVD Tangential Adjustment Screw
DVD MAIN ASSY
VR921
TILT UP/DOWN
(⏮, ⏭)
Jitter MIN.
JITTER
CLD MAIN ASSY
VR609
TILT ERROR : 7
TILT-7
TV monitor
CHECK
RF Level 0.8V~1.4V
(AGC : ON
BIT : 11T
1:1 Probe)
Player
START
DVD MAIN ASSY
RF MIRR
⑤
CN902
Equalizer unit
LEVEL
JITTER
Jitter meter
outermost : 最外周

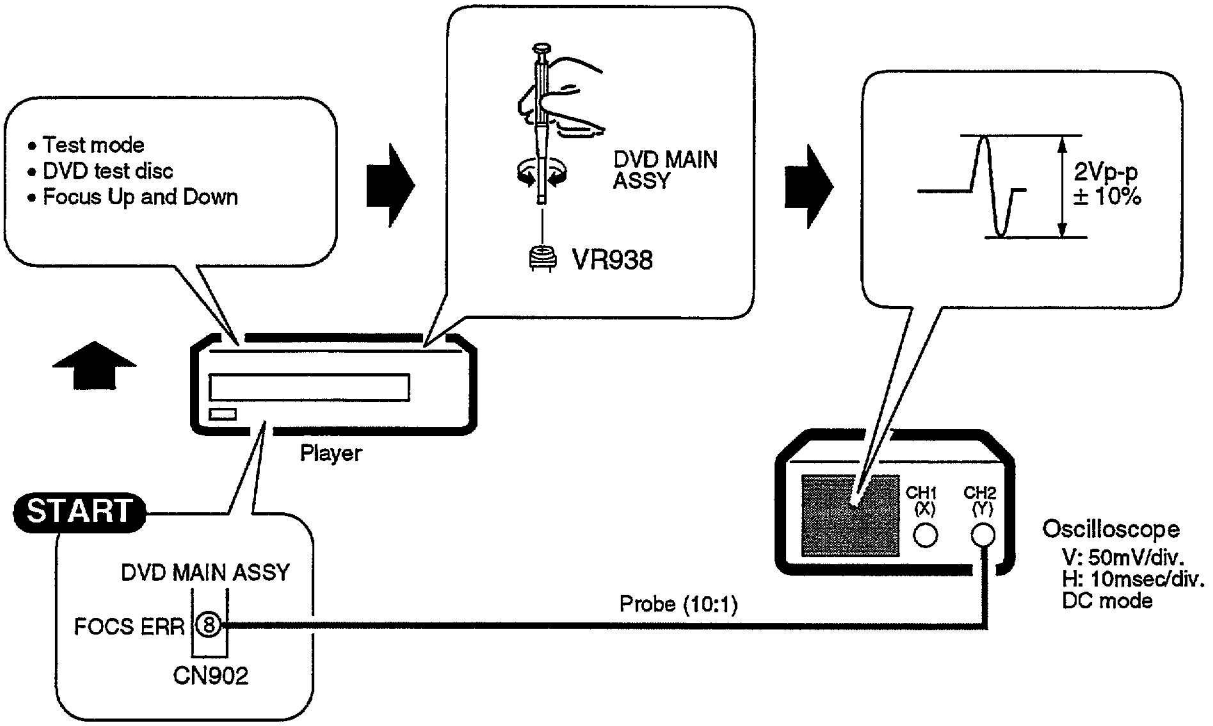
⑬ Tracking Error Level Adjustment

(トラッキングエラーレベル調整)


• Test mode
TRKG→ OFF
• Play the DVD test disc at inner track.
DVD MAIN ASSY
VR621
1.6Vp-p
± 10%
Player
START
DVD MAIN ASSY
TRK ERR
③
CN902
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 50mV/div.
H: 10msec/div.
DC mode

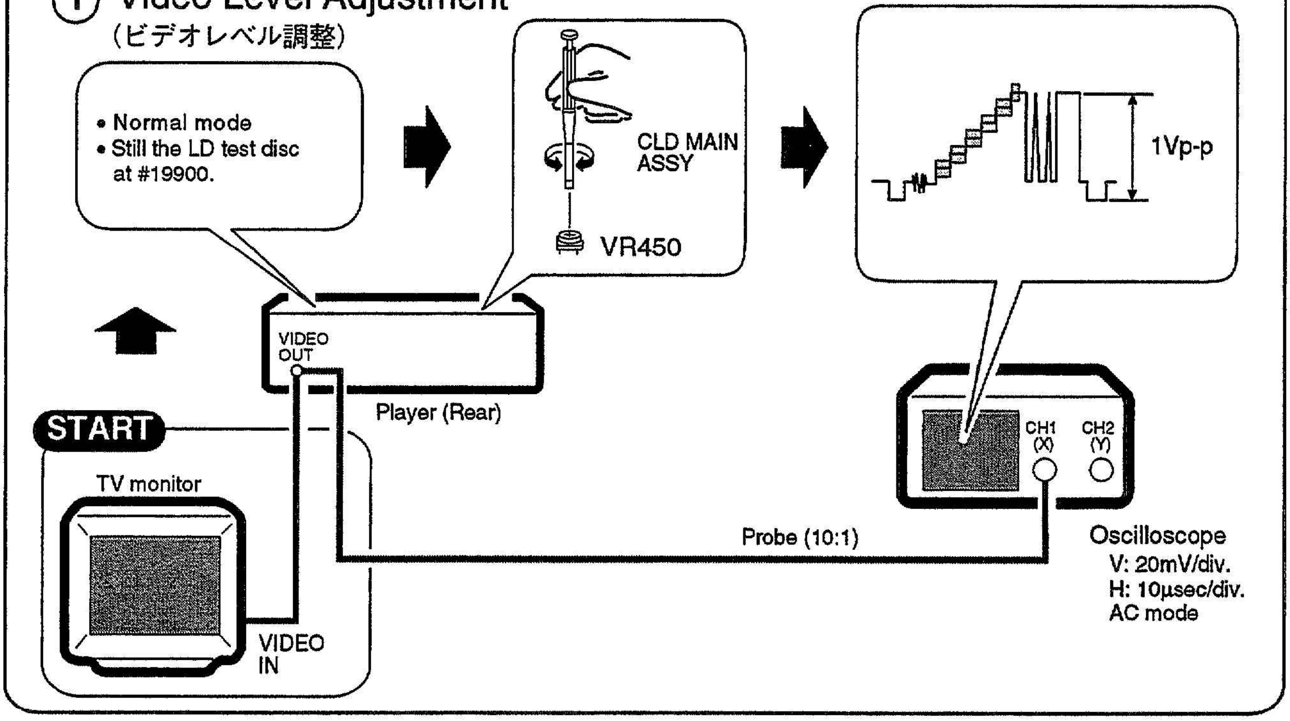
⑭ DVD Focus S-curve Level Fine Adjustment

(DVDフォーカスS字レベル微調整)

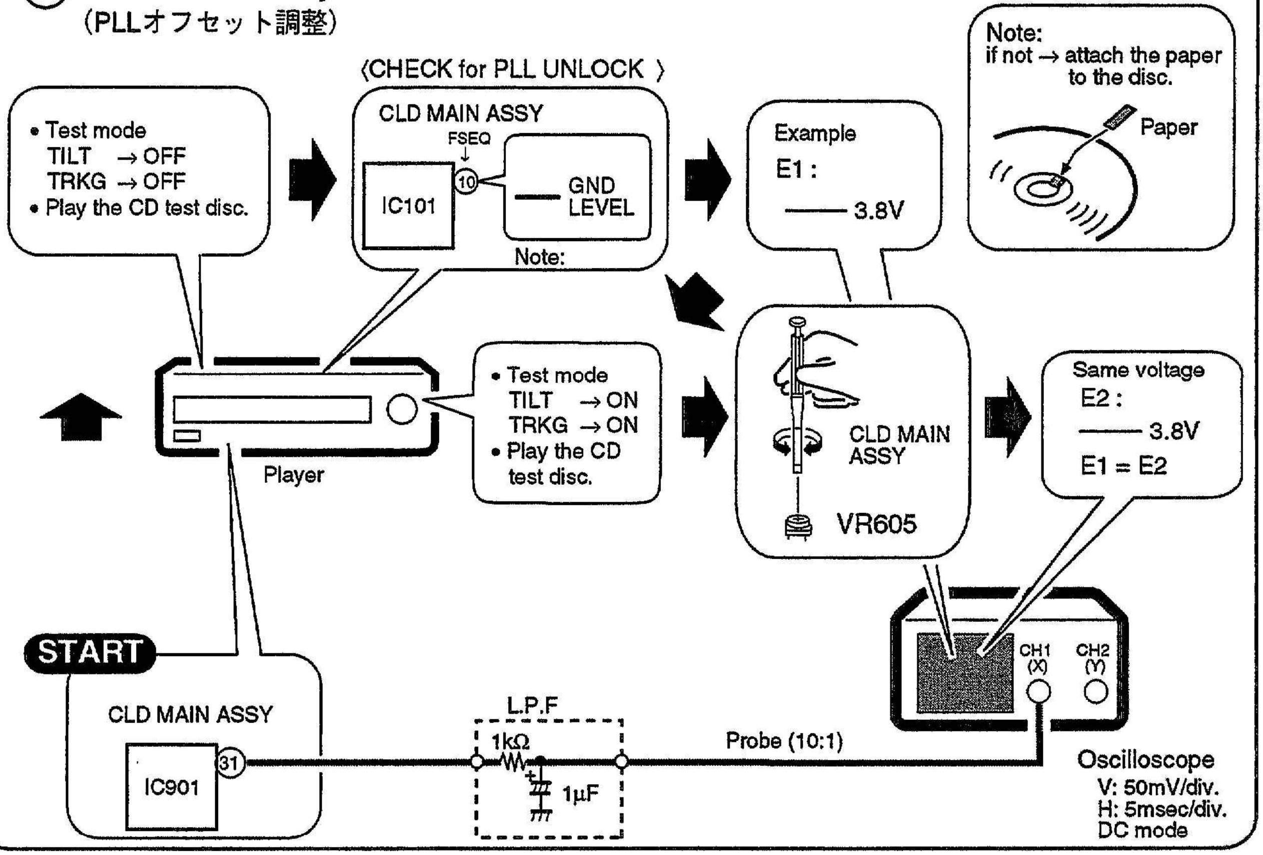

• Test mode
• DVD test disc
• Focus Up and Down
DVD MAIN ASSY
VR938
2Vp-p
± 10%
Player
START
DVD MAIN ASSY
FOCS ERR
⑧
CN902
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 50mV/div.
H: 10msec/div.
DC mode

6.6 ELECTRICAL ADJUSTMENT (電気系の調整)

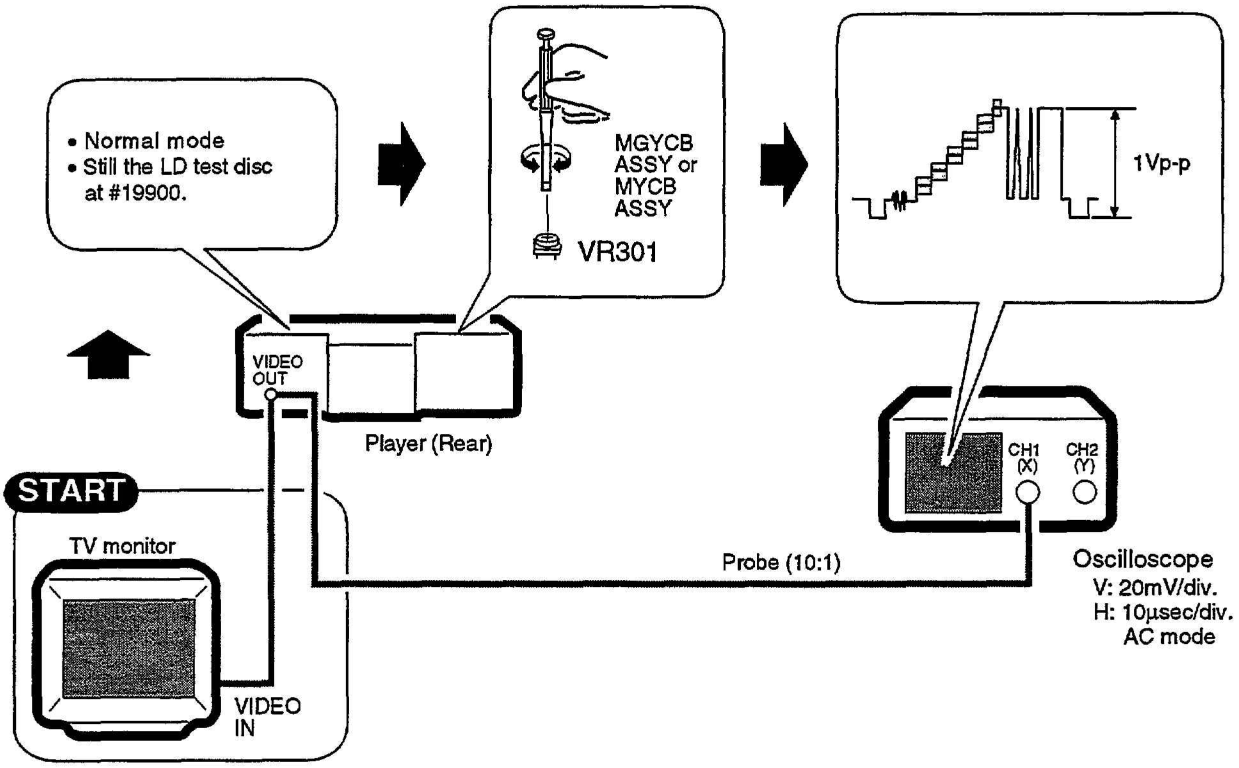
① Video Level Adjustment
(ビデオレベル調整)


• Normal mode
• Still the LD test disc at #19900.
CLD MAIN ASSY
VR450
1Vp-p
VIDEO OUT
Player (Rear)
START
TV monitor
VIDEO IN
CH1 (X)
CH2 (Y)
Probe (10:1)
Oscilloscope
V: 20mV/div.
H: 10µsec/div.
AC mode

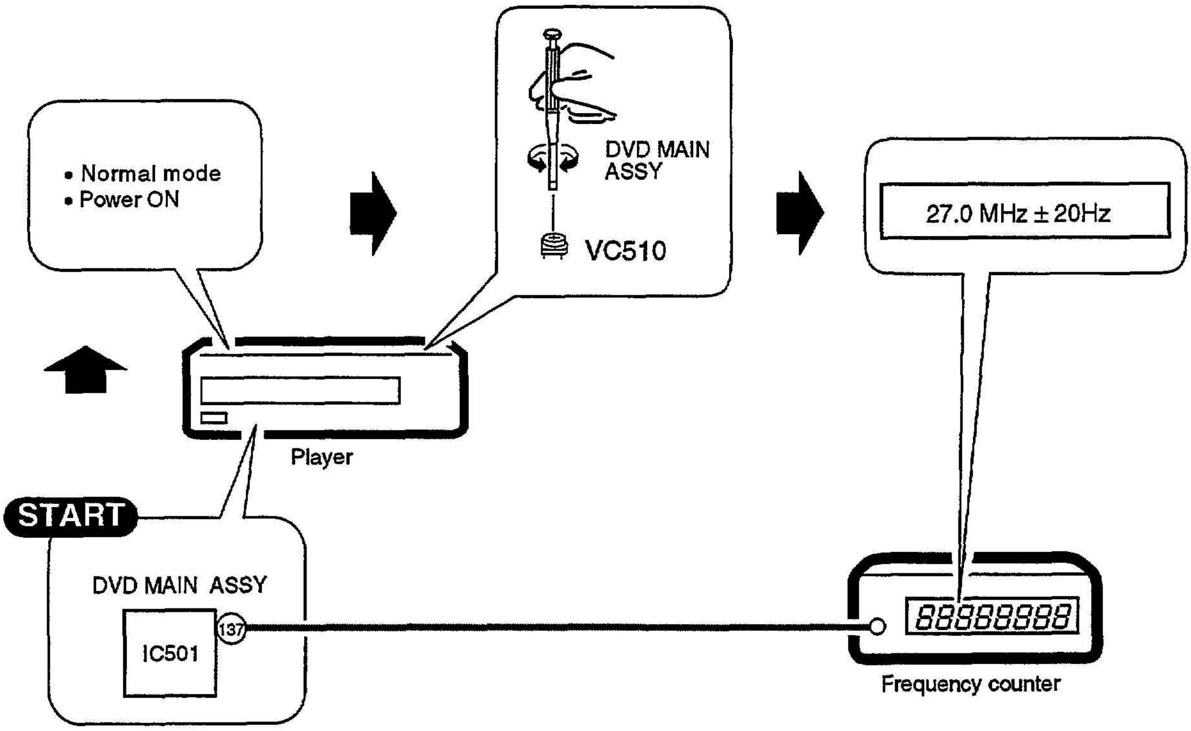
② PLL Offset Adjustment
(PLLオフセット調整)


〈CHECK for PLL UNLOCK 〉
• Test mode
TILT → OFF
TRKG → OFF
• Play the CD test disc.
CLD MAIN ASSY
FSEQ
IC101
10
GND LEVEL
Note:
Example
E1 :
3.8V
Note:
if not → attach the paper to the disc.
Paper
Player
• Test mode
TILT → ON
TRKG → ON
• Play the CD test disc.
CLD MAIN ASSY
VR605
Same voltage
E2 :
3.8V
E1 = E2
START
CLD MAIN ASSY
IC901
31
L.P.F
1kΩ
1µF
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 50mV/div.
H: 5msec/div.
DC mode

③ Y Output Level Adjustment
(Y出力レベル調整)

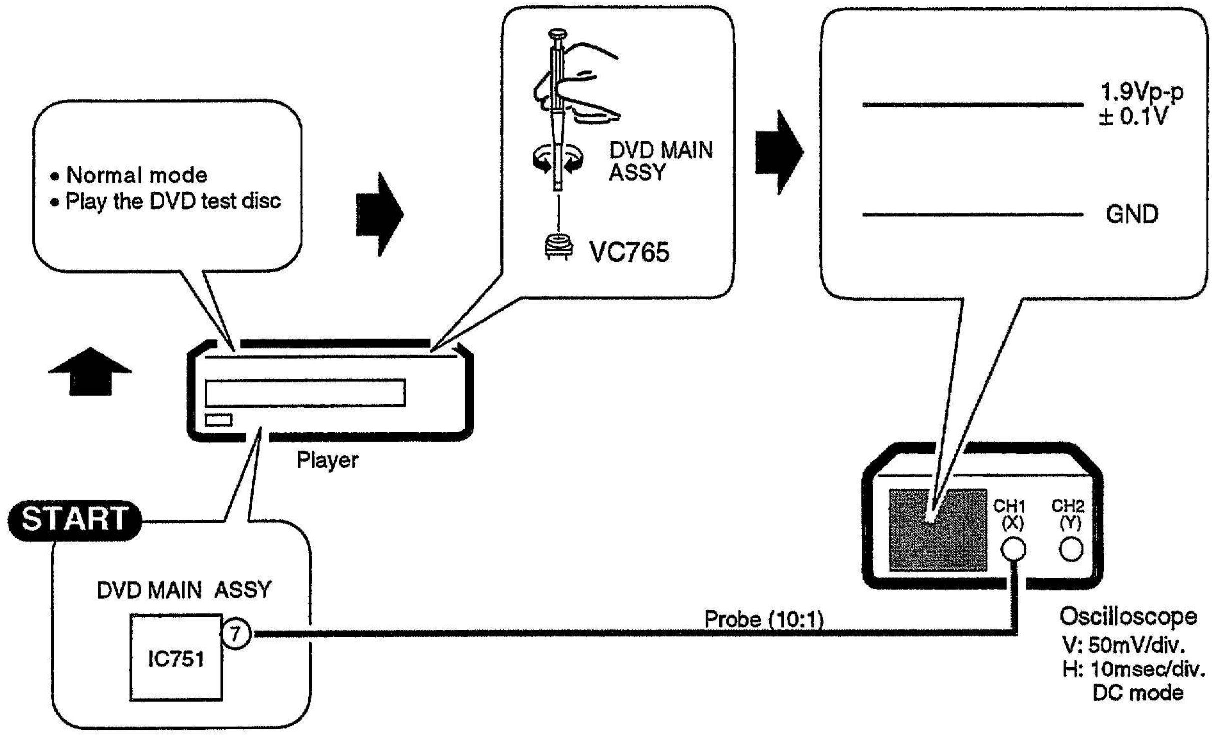

• Normal mode
• Still the LD test disc at #19900.
MGYCB ASSY or MYCB ASSY
VR301
1Vp-p
VIDEO OUT
Player (Rear)
START
TV monitor
VIDEO IN
CH1 (X)
CH2 (Y)
Probe (10:1)
Oscilloscope
V: 20mV/div.
H: 10µsec/div.
AC mode

④ Master Clock Adjustment
(マスタークロック調整)


• Normal mode
• Power ON
DVD MAIN ASSY
VC510
27.0 MHz ± 20Hz
Player
START
DVD MAIN ASSY
IC501
137
88888888
Frequency counter

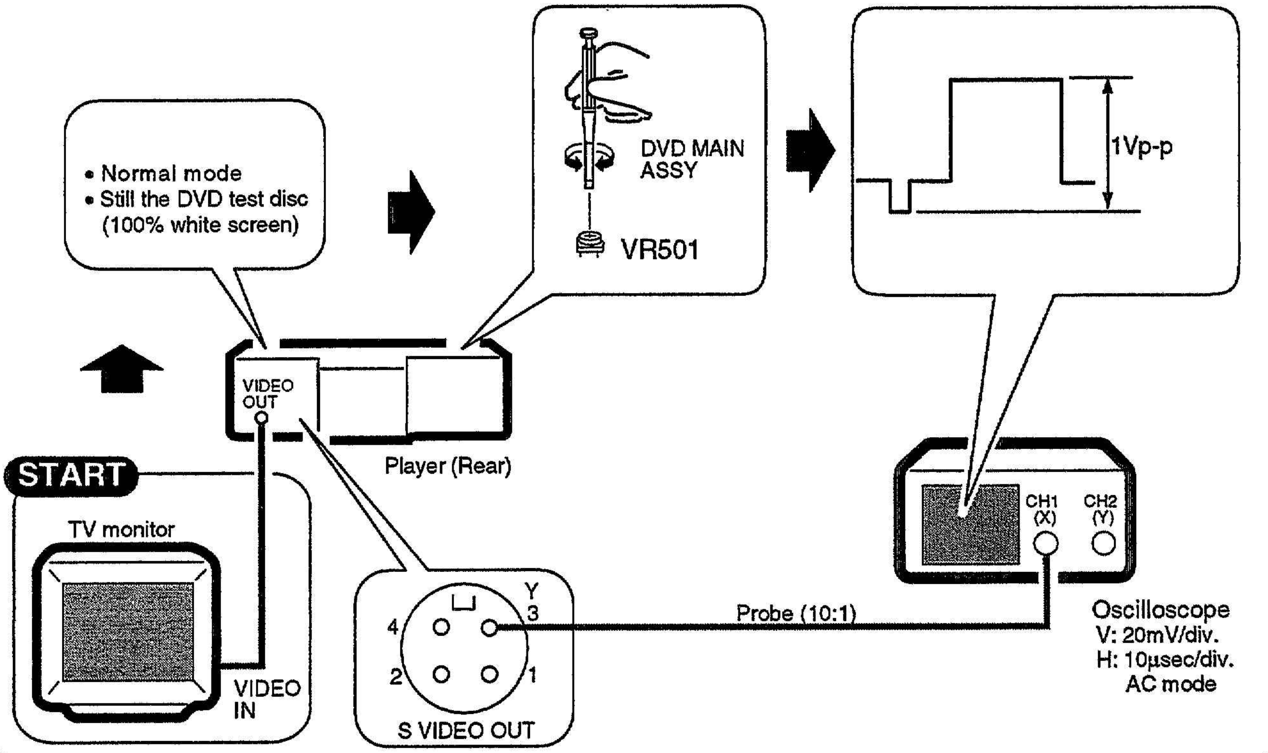
⑤ VCO Offset Adjustment

(VCOオフセット調整)


• Normal mode
• Play the DVD test disc
DVD MAIN ASSY
VC765
1.9Vp-p
± 0.1V
GND
Player
START
DVD MAIN ASSY
IC751
7
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 50mV/div.
H: 10msec/div.
DC mode

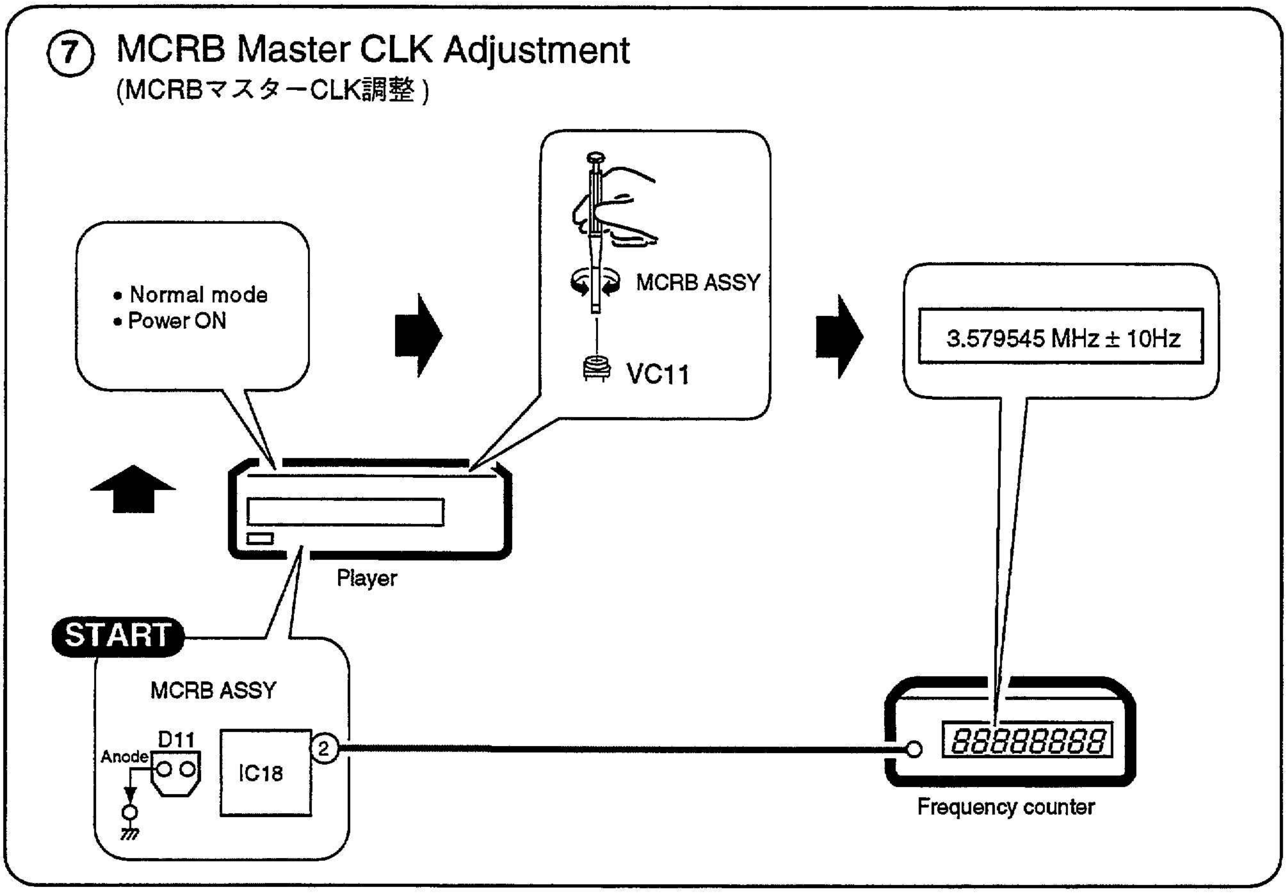
⑥ Video Output Adjustment

(ビデオ出力調整)


• Normal mode
• Still the DVD test disc
(100% white screen)
DVD MAIN ASSY
VR501
1Vp-p
VIDEO OUT
Player (Rear)
START
TV monitor
VIDEO IN
Y
3
4
2
1
S VIDEO OUT
Probe (10:1)
CH1 (X)
CH2 (Y)
Oscilloscope
V: 20mV/div.
H: 10µsec/div.
AC mode

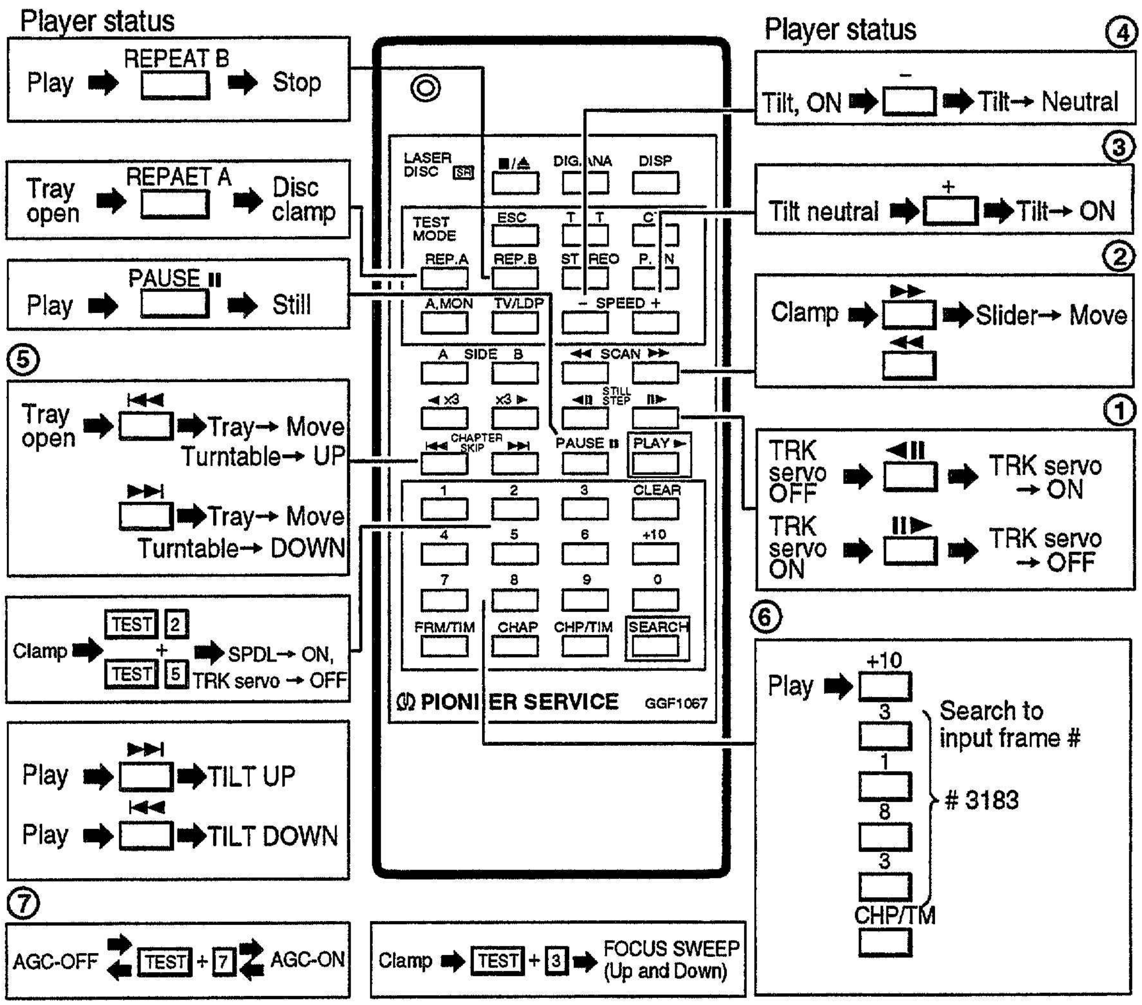
⑦ MCRB Master CLK Adjustment

(MCRBマスターCLK調整)

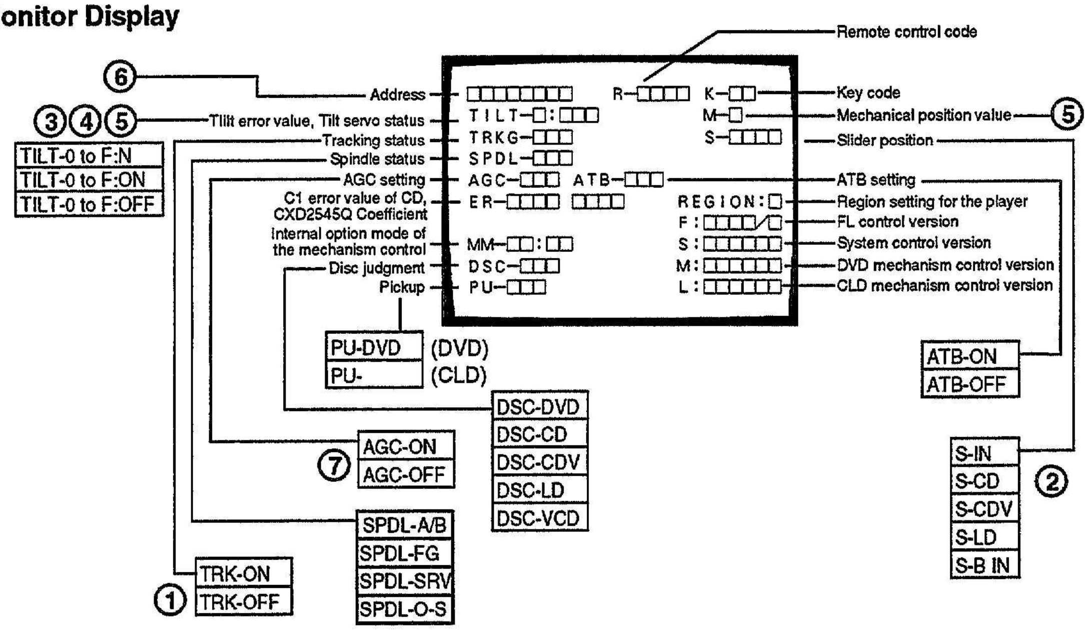

• Normal mode
• Power ON
MCRB ASSY
VC11
3.579545 MHz ± 10Hz
Player
START
MCRB ASSY
D11
Anode
IC18
2
88888888
Frequency counter

6.7 OPERATIONS IN THE TEST MODE（テストモード時のサービス用リモコン操作方法）

■ Test Mode Remote Control Unit (GGF1067)


Player status
Play ➡ REPEAT B ➡ Stop
Tray open ➡ REPAET A ➡ Disc clamp
Play ➡ PAUSE II ➡ Still
⑤
Tray open ➡ ⏮ ➡ Tray→ Move Turntable→ UP
⏭ ➡ Tray→ Move Turntable→ DOWN
Clamp ➡ TEST 2 + TEST 5 ➡ SPDL→ ON, TRK servo → OFF
Play ➡ ⏭ ➡ TILT UP
Play ➡ ⏮ ➡ TILT DOWN
⑦
AGC-OFF ⇄ TEST + 7 ⇄ AGC-ON
Clamp ➡ TEST + 3 ➡ FOCUS SWEEP (Up and Down)
Player status
④
Tilt, ON ➡ – ➡ Tilt→ Neutral
③
Tilt neutral ➡ + ➡ Tilt→ ON
②
Clamp ➡ ▶▶ ◀◀ ➡ Slider→ Move
①
TRK servo OFF ➡ ◀II ➡ TRK servo → ON
TRK servo ON ➡ II▶ ➡ TRK servo → OFF
⑥
Play ➡ +10 3 1 8 3 CHP/TM
Search to input frame #
# 3183
LASER DISC
■/⏏
DIG./ANA
DISP
TEST MODE
ESC
T T
C
REP.A
REP.B
STEREO
P. N
A.MON
TV/LDP
– SPEED +
A SIDE B
◀◀ SCAN ▶▶
◀ x3
x3 ▶
◀II STILL STEP II▶
⏮ CHAPTER SKIP ⏭
PAUSE II
PLAY ▶
1
2
3
CLEAR
4
5
6
+10
7
8
9
0
FRM/TIM
CHAP
CHP/TIM
SEARCH
PIONEER SERVICE
GGF1067

■ TV Monitor Display


Remote control code
⑥
Address
③④⑤
Tilit error value, Tilt servo status
TILT-0 to F:N
TILT-0 to F:ON
TILT-0 to F:OFF
Tracking status
Spindle status
AGC setting
C1 error value of CD, CXD2545Q Coefficient
Internal option mode of the mechanism control
Disc judgment
Pickup
R–□□□□
K–□□
TILT–□:□□□
M–□
TRKG–□□□
S–□□□□
SPDL–□□□
AGC–□□□
ATB–□□□
ER–□□□□ □□□□
REGION:□
F:□□□□/□
MM–□□:□□
S:□□□□□□
DSC–□□□
M:□□□□□□
PU–□□□
L:□□□□□□
Key code
Mechanical position value
⑤
Slider position
ATB setting
Region setting for the player
FL control version
System control version
DVD mechanism control version
CLD mechanism control version
PU-DVD (DVD)
PU- (CLD)
ATB-ON
ATB-OFF
DSC-DVD
DSC-CD
DSC-CDV
DSC-LD
DSC-VCD
⑦
AGC-ON
AGC-OFF
S-IN
S-CD
S-CDV
S-LD
S-B IN
②
SPDL-A/B
SPDL-FG
SPDL-SRV
SPDL-O-S
TRK-ON
TRK-OFF
①

7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

- The information in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PD4753B (FLPB ASSY : IC101)

● MODE CONTROL IC

● Pin Function

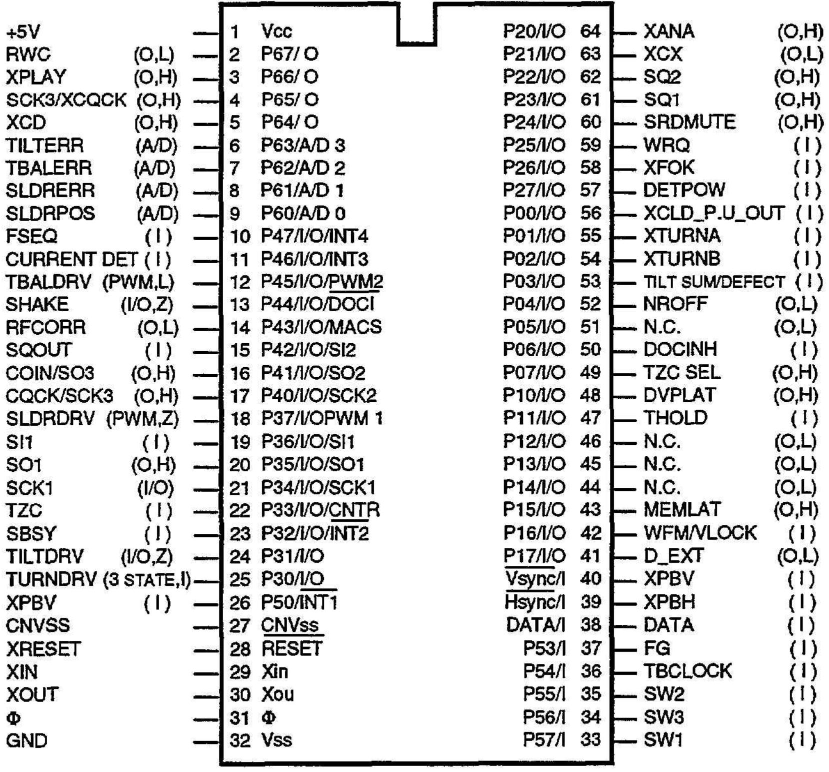
No.	Name	Function Name	I/O	Function	ACTIVE
1	P94	T6	O	FL timing output.	H : ON
2	P93	T5	O		
3	P92	T4	O		
4	P91	T3	O		
5	P90	T2	O		
6	P81	T1	O		
7	P80	T0	O		
8	VDD	Vcc	-	-	-
9	P27	Angle LED	O	Angle LED ON/OFF.	H : ON
10	P26	SIDE A LED	O	SIDE A LED ON/OFF. Basically (NC) only with compatible.	H : ON
11	P25	SIDE B LED	O	SIDE B LED ON/OFF. Basically (NC) only with compatible.	H : ON
12	P24	DVD illumination	O	DVD illumination lamp ON/OFF.	H : ON
13	P23	XRDY	O	Communications handshake line with system controller.	L: communications enabled
14	P22	SCK1	I/O	Communication clock output with system controller.	-
15	P21	SO1	I/O	Communication data output with system controller.	-
16	P20	SI1	I	Communication data input with system controller.	-
17	$\overline{\text{RESET}}$	RESET IN	I	Reset input.	L: reset
18	P74	Condition LED	O	Condition OED ON/OFF.	L : ON
19	P73	Last memory LED	O	Last memory LED ON/OFF.	L : ON
20	AVss	Vss	-	-	-
21	P17	POWER ON	O	SW5V ON/OFF.	H : ON
22	P16	RESET OUT	O	System reset output.	L: reset
23	P15	(NC)	O	-	-
24	P14	(NC)	O	-	-
25	P13	KIN1	I	Key input.	
26	P12	KIN0	I	Key input.	
27	P11	MS1	I	Destination determination input.	
28	P10	MS0	I	Destination determination input.	
29	AVDD	AVDD	-	-	-
30	AVREF	AVREF	-	-	-
31	P04	P04	I	(Not used)	-
32	XT2	(NC)	-	-	-
33	Vss	Vss	I	-	-
34	X1	X1	I	Microprocessor clock connection.	
35	X2	X2	-	Microprocessor clock connection.	
36	P37	(NC)	O	-	-
37	P36	(NC)	O		
38	P35	(NC)	O		
39	P34	(NC)	O		
40	P33	(NC)	O		

No.	Name	Function Name	I/O	Function	ACTIVE
41	P32	(NC)	O	-	-
42	P31	(NC)	O		
43	P30	(NC)	O		
44	P03	(NC)	O		
45	P02	(NC)	O		
46	P01	LT1	I	Communications handshake line with system controller.	L: communications enabled
47	P00	SEL IR	I	Remote control signal input.	
48	IC	IC	-	-	-
49	P72	(NC)	O	-	-
50	P71	(NC)	O		
51	P70	(NC)	O		
52	VDD	VDD	-	-	-
53	P127	DISP LED	O	Display LED ON/OFF.	H : ON
54	P126	GUI LED	O	GUI LED ON/OFF.	H : ON
55	P125	(NC)	O	-	-
56	P124	(NC)	O		
57	P123	(NC)	O		
58	P122	S15	O	FL segment output.	H : ON
59	P121	S14	O		
60	P120	S13	O		
61	P117	S12	O		
62	P116	S11	O		
63	P115	S10	O		
64	P114	(NC)	O	-	-
65	P113	(NC)	O	-	-
66	P112	S9	O	FL segment output.	H : ON
67	P111	S8	O		
68	P110	S7	O		
69	P107	S6	O		
70	P106	S5	O		
71	VLOAD	-30V	-	Input for -30V.	
72	P105	S4	O	FL segment output.	H : ON
73	P104	S3	O		
74	P103	S2	O		
75	P102	S1	O		
76	P101	S0	O		
77	P100	T10	O	FL segment output.	H : ON
78	P97	T9	O		
79	P96	T8	O		
80	P95	T7	O		

■ PD0246A2 (CLD MAIN ASSY : IC101)

● LD MECHANISM CONTROL IC

● Pin Arrangement (Top View)


+5V — 1 Vcc
RWC (O,L) — 2 P67/ O
XPLAY (O,H) — 3 P66/ O
SCK3/XCQCK (O,H) — 4 P65/ O
XCD (O,H) — 5 P64/ O
TILTERR (A/D) — 6 P63/A/D 3
TBALERR (A/D) — 7 P62/A/D 2
SLDRERR (A/D) — 8 P61/A/D 1
SLDRPOS (A/D) — 9 P60/A/D 0
FSEQ (I) — 10 P47/I/O/INT4
CURRENT DET (I) — 11 P46/I/O/INT3
TBALDRV (PWM,L) — 12 P45/I/O/PWM2
SHAKE (I/O,Z) — 13 P44/I/O/DOCI
RFCORR (O,L) — 14 P43/I/O/MACS
SQOUT (I) — 15 P42/I/O/SI2
COIN/SO3 (O,H) — 16 P41/I/O/SO2
CQCK/SCK3 (O,H) — 17 P40/I/O/SCK2
SLDRDRV (PWM,Z) — 18 P37/I/OPWM 1
SI1 (I) — 19 P36/I/O/SI1
SO1 (O,H) — 20 P35/I/O/SO1
SCK1 (I/O) — 21 P34/I/O/SCK1
TZC (I) — 22 P33/I/O/CNTR
SBSY (I) — 23 P32/I/O/INT2
TILTDRV (I/O,Z) — 24 P31/I/O
TURNDRV (3 STATE,I) — 25 P30/I/O
XPBV (I) — 26 P50/INT1
CNVSS — 27 CNVss
XRESET — 28 RESET
XIN — 29 Xin
XOUT — 30 Xou
Φ — 31 Φ
GND — 32 Vss
P20/I/O 64 — XANA (O,H)
P21/I/O 63 — XCX (O,L)
P22/I/O 62 — SQ2 (O,H)
P23/I/O 61 — SQ1 (O,H)
P24/I/O 60 — SRDMUTE (O,H)
P25/I/O 59 — WRQ (I)
P26/I/O 58 — XFOK (I)
P27/I/O 57 — DETPOW (I)
P00/I/O 56 — XCLD_P.U_OUT (I)
P01/I/O 55 — XTURNA (I)
P02/I/O 54 — XTURNB (I)
P03/I/O 53 — TILT SUM/DEFECT (I)
P04/I/O 52 — NROFF (O,L)
P05/I/O 51 — N.C. (O,L)
P06/I/O 50 — DOCINH (I)
P07/I/O 49 — TZC SEL (O,H)
P10/I/O 48 — DVPLAT (O,H)
P11/I/O 47 — THOLD (I)
P12/I/O 46 — N.C. (O,L)
P13/I/O 45 — N.C. (O,L)
P14/I/O 44 — N.C. (O,L)
P15/I/O 43 — MEMLAT (O,H)
P16/I/O 42 — WFM/VLOCK (I)
P17/I/O 41 — D_EXT (O,L)
Vsync/I 40 — XPBV (I)
Hsync/I 39 — XPBH (I)
DATA/I 38 — DATA (I)
P53/I 37 — FG (I)
P54/I 36 — TBCLOCK (I)
P55/I 35 — SW2 (I)
P56/I 34 — SW3 (I)
P57/I 33 — SW1 (I)

● Pin Function

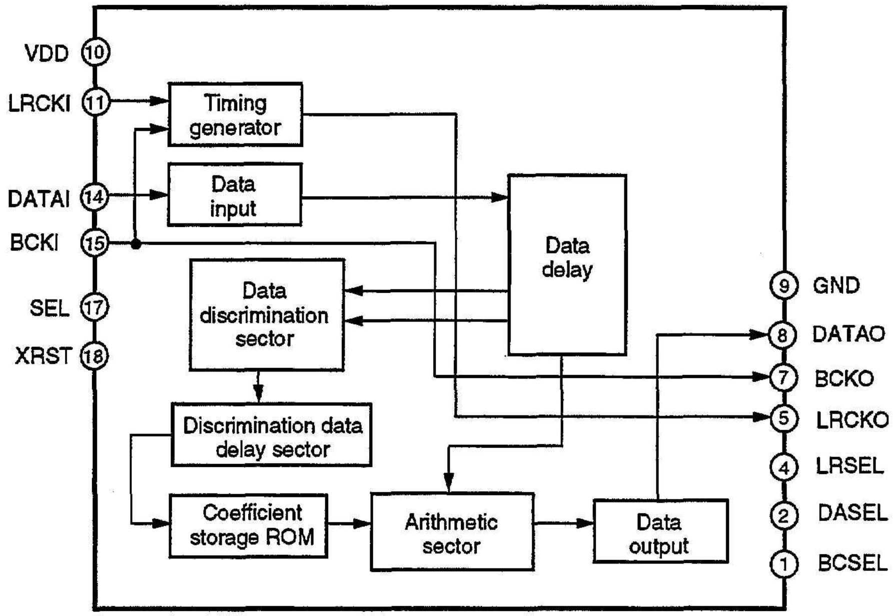
No.	Pin Name	I/O	Pin Function
1	VCC	I	Power supply pin Apply 5V ± 10%
2	RWC	O	DSP read/write command signal output "L"= Read "H"= Write
3	XPLAY	O	Signal output during spindle servo "L"= During servo "H"= During acceleration, brake and stop
4	SCK3/XCQCK	O	DVP/DSP clock switch "H"= DVP "L"= DSP
5	XCD	O	LD/CD switch signal output "L= CD "H"= LD
6	TILTERR	I A/D	This signal is A/D converted as the tilt servo control input. Control the tilt motor so that this signal becomes 2.5V.
7	TBALERR	I A/D	Tracking balance error signal input This signal is A/D converted as the tracking offset control input.
8	SLDERR	I A/D	This signal is A/D converted as the slider servo control input. Control the slider motor so that this signal becomes 2.5V.
9	SLDPOS	I A/D	Pickup position detection switch input Detect the position by reading A/D input value which each switches are resistance divided.
10	FSEQ	I	Subcode sync. confirmity detection signal input "L"= Not confirmity "H"= Confirmity
11	CURRENTDET	I	Spindle over-current detection signal input "L" = Over current "H"= Normal
12	TBALDRV	O PWM	Output the tracking offset signal to PWM output, then use for auto tracking offset. 910µsec period, tri-state control H, L, Z
13	SHAKE	I/O	Handshake signal for data communication with the mode control IC This pin is the bilateral data line and each microprocessor control the Input/Output.
14	RFCORR	O	RF correction switch signal output "H"= Gain UP CD, CDV-A:Low, CAV inner circuit gain up, others are High.
15	SQOUT	I	Command data input from DSP Read out SUBQ
16	SO3/COIN	O	Command data output to DVP/DSP
17	SCK3/CQCK	O	DVP/DSP read/write command clock output Read-in at rising edge
18	SLDDRV	O PWM	Slider control signal output 5V= FWD, 0V= REV, 2.5V= STOP 910µsec period, tri-state control H, L, Z

No.	Pin Name	I/O	Pin Function
19	SI1	I	Data input from the mode control IC
20	SO1	O	Serial data output to the mode control IC
21	SCK1	I/O	Clock for serial communication with the mode control IC Becomes input mode without communicate with the mode control IC
22	TZC	I INT	Tracking error zero cross signal input Monitor this signal when searching track count in the miss clamp detection
23	SBSY	I	Subcode block sync. input
24	TILTDRV	I/O	LOAD/TILT control output 0.5V= Tray IN, OUT/Tilt DOWN, UP 2.5V=STOP Use for tilt servo that tilt drive is PWM output.
25	TURNDRV	O	Turn drive signal output
26	XPBV	I	Playback vertical sync. signal input of LD/CDV "L"= During vertical sync.
27	CNVSS	I	Ground for A/D conversion
28	XRESET	I	Reset signal input "L"= Reset "H"= Release reset Mode control IC is controlled.
29	XIN	I	9MHz clock oscillation input
30	XOUT	O	9MHz clock oscillation output
31	N.C.	O	Not used
32	GND	I	Ground
33	SW1	I	Switch input for Loading/Tilt position detection
34	SW3		
35	SW2		
36	TBCLOCK	I	Spindle lock signal input "L"= Unlock "H"= Lock
37	FG	I	Spindle motor FG signal input 16 outputs per rotation Used after dividing by 2 in the microprocessor
38	DATA	I	Input for Phillips code decoder with built-in mechanism controller
39	XPBH	I	Playback H-SYNC input for Phillips code decoder
40	XPBV	I	Playback V-SYNC input for Phillips code decoder
41	D_EXT	O	Control signal output for video dynamic extension "H"= ON "L"= OFF
42	WFM	I	Field discrimination signal from DVP "H"= ODD "L"= EVEN
43	MEMLAT	O	Serial control latch output of memory control IC PD3212A Latches at falling edge.
44	N.C.	O	Not used
45	N.C.	O	Not used
46	N.C.	O	Not used
47	THOLD	I	Track jump accelerating / decelerating signal input "L"= Other "H"= During accelerating / decelerating
48	DVPLAT	O	PD6159B serial latch signal output Latches at falling edge.
49	TZCSEL	O	TZC switch signal output "H"= at normal "L"= at CD/DVD disc discrimination
50	DOCINH	O	Control the clamp pulse and clamp killer by tri-state value
51	N.C.	O	Not used
52	NROFF	O	Noise reduction control output by VDEM "L"= Normal "H"= Not NR
53	TILT SUM	O	Disc present/absent detecting signal input by the tilt sum in the DVD P.U. mode "H"= Absent "L"= Present
54	XTURNB	I	Turn switch input "H"= Side A / turn "L"= Side B
55	XTURNA	I	Turn switch input "H"= Side B / turn "L"= Side A
56	XLDPUCUT	I	LD P.U. out position detecting switch input "H"= LD P.U. active "L"= LD P.U. out position
57	DETPOW	I	Use for power abnormal signal input port "L"= Normal "H"= Abnormal
58	XFOK	I	Focus servo lock signal input "L"= Lock "H"= Unlock Use for lock detection of focus servo
59	WRQ	I	Subcode Q reading OK signal input "L"= NG "H"= OK This pin will be H when subcode Q data passed by CRC check.
60	SRDMUTE	O	Mute control signal output for AC3 Release MUTE during playback. "L"= Release MUTE "H"= MUTE
61	SQ1	O	Analog audio switching signal output 1/L "L"= Squelch OFF "H"= Squelch ON
62	SQ2	O	Analog audio switching signal output 2/R "L"= Squelch OFF "H"= Squelch ON
63	XCX	O	Analog audio CX noise reduction switching signal output "L"= CX ON "H"= CX OFF
64	XANA	O	Digital / Analog audio switching signal output "L"= Analog "H"= Digital

■ PD0236AM (CLD MAIN ASSY : IC202)

● HI-BIT IC

● Block Diagram


VDD 10
LRCKI 11
DATAI 14
BCKI 15
SEL 17
XRST 18
Timing generator
Data input
Data delay
Data discrimination sector
Discrimination data delay sector
Coefficient storage ROM
Arithmetic sector
Data output
9 GND
8 DATAO
7 BCKO
5 LRCKO
4 LRSEL
2 DASEL
1 BCSEL

● Pin Function

No.	Pin Name	I/O	Pin Function
1	BCSEL	Ip	fs selection of bit clock (built-in pull-up) H : BCKI = 48fs , L : BCKI = 64fs
2	DASEL	Ip	Output data length selection when the bit length expansion function is ON. H :DATAO = 20 bit , L : DATAO = 24 bit
3	(NC)	–	Not used (Open or VDD)
4	LRSEL	Ip	LRCKO polarity selection (built-in pull-up) H : LRCKI = LRCKO , L : LRCKI = $\overline{\text{LRCKO}}$
5	LRCKO	O	LR clock output
6	(NC)	–	Not used (Open or VDD)
7	BCKO	O	Bit clock output
8	DATAO	O	Data output
9	GND	–	Ground pin
10	VDD	–	Power supply pin
11	LRCKI	I	LR clock input
12	(NC)	–	Not used (Open or VDD)
13	(NC)	–	Not used (Open or VDD)
14	DATAI	I	Data input
15	BCKI	I	Bit clock input
16	(NC)	–	Not used (Open or VDD)
17	SEL	Ip	Bit length expansion process / input data output selection (built-in pull-up) H :Expansion process (output word length : 20/24 bit), L : Input data output
18	XRST	I	Reset pin H : Normal , L : Reset

■ HD6417032F20 (DVD MAIN ASSY : IC101)

● SYSTEM μ- COM

● Pin Function

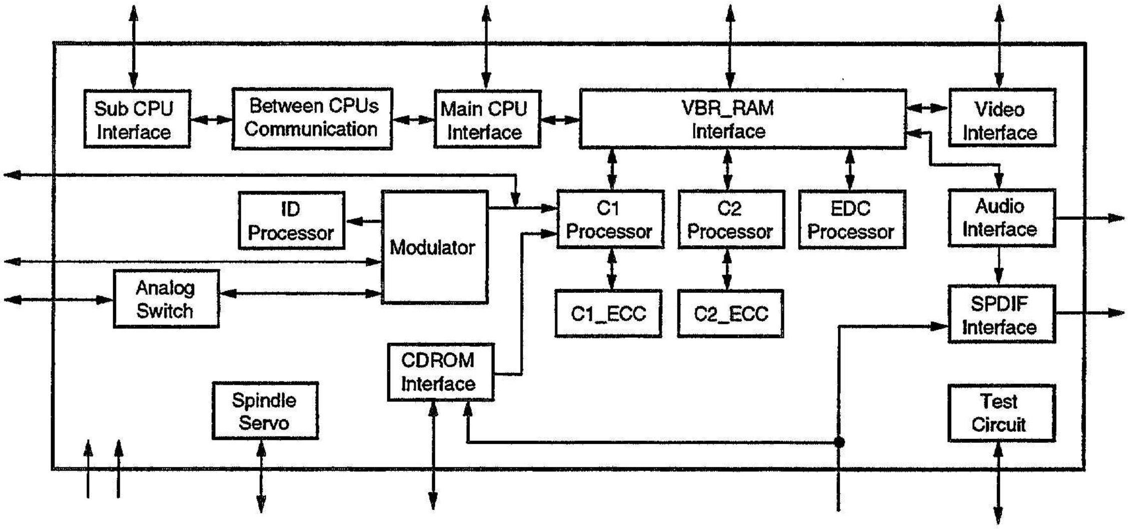
No.	Name	Signal Name	I/O	Active	Function
1	XIRQ6	XIRQ6	I	L	Interrupt input from LSI-1.
2	XIRQ7	XIRQ7	I	L	Interrupt input from μPD61020.
3	Vss	Vss	-	-	Grounding.
4	AD0	AD0	I/O	-	Data bus.
5	AD1	AD1	I/O	-	
6	AD2	AD2	I/O	-	
7	AD3	AD3	I/O	-	
8	AD4	AD4	I/O	-	
9	AD5	AD5	I/O	-	
10	AD6	AD6	I/O	-	
11	AD7	AD7	I/O	-	
12	Vss	Vss	-	-	Grounding.
13	AD8	AD8	I/O	-	Data bus.
14	AD9	AD9	I/O	-	Data bus.
15	Vcc	Vcc	-	-	Power supply.
16	AD10	AD10	I/O	-	Data bus.
17	AD11	AD11	I/O	-	
18	AD12	AD12	I/O	-	
19	AD13	AD13	I/O	-	
20	AD14	AD14	I/O	-	
21	AD15	AD15	I/O	-	
22	Vss	Vss	-	-	Grounding.
23	A0 (XHBS)	A0 (XHBS)	O	-	Address bus.
24	A1	A1	O	-	
25	A2	A2	O	-	
26	A3	A3	O	-	
27	A4	A4	O	-	
28	A5	A5	O	-	
29	A6	A6	O	-	
30	A7	A7	O	-	
31	Vss	Vss	-	-	Grounding.
32	A8	A8	O	-	Address bus.
33	A9	A9	O	-	
34	A10	A10	O	-	
35	A11	A11	O	-	
36	A12	A12	O	-	
37	A13	A13	O	-	
38	A14	A14	O	-	
39	A15	A15	O	-	
40	Vss	Vss	-	-	Grounding.
41	A16	A16	O	-	Address bus.
42	A17	A17	O	-	Address bus.
43	Vcc	Vcc	-	-	Power supply.
44	A18	A18	O	-	Address bus.
45	A19	A19	O	-	
46	A20	A20	O	-	
47	A21	A21	O	-	
48	XCS0	XCS0	O	L	Chip selection to program ROM.
49	XCS1	XCS1	O	L	Chip selection to work SRAM.
50	XCS2	XCS2	O	L	Chip selection to GUI-ROM.
51	XCS3	XCS3	O	L	Chip selection to LSI-1.
52	Vss	Vss	-	-	Grounding.
53	XCS4	XCS4	O	L	Chip selection to LSI-2.
54	XCS5	XCS5	-	-	Not used.
55	XCS6	XCS6	O	L	Chip selection to μPD61020.
56	XWAIT	XWAIT	I	L	Weight input for bus cycle.

No.	Name	Signal Name	I/O	Active	Function
57	XWR	XWR	O	L	Signal for external write.
58	PA5	PA5	O	-	TP58 (test pin).
59	XRD	XRD	O	L	Signal for external read.
60	PA7	XLT3	O	L	Latch signal to PD2026/29.
61	Vss	Vss	-	-	Grounding.
62	PA8	XLT2	O	L	Latch signal to ZR38521.
63	PA9	XDAKE	O	L	LSI-1 and LSI-2 direct DMA enable output.
64	TIOCA1	XQ2	I	L	Interrupt input from LSI-2.
65	PA11	LT1	O	H	Handshake output to FL CON.
66	DACK0	DACK0	O	H	Signal to acknowledge request for DMA transfer to LSI-1.
67	XDREQ0	XDREQ0	I	L	Signal to acknowledge request for DMA transfer from LSI-1.
68	DACK1	DACK1	O	L	Signal to acknowledge request for DMA transfer to LSI-2.
69	XDREQ1	XDREQ1	I	L	Signal to acknowledge request for DMA transfer from LSI-2.
70	Vcc	Vcc	-	-	Power supply.
71	CK	CK	O	-	System control clock output. Not used.
72	Vss	Vss	-	-	Grounding.
73	EXTAL	EXTAL	I	-	Crystal oscillator input.
74	XTAL	XTAL	I	-	Crystal oscillator input.
75	Vcc	Vcc	-	-	Power supply.
76	NMI	NMI	I	-	NMI input (pull-up). Not used.
77	Vcc	Vcc	-	-	Power supply.
78	XWDTOF	WDTOF	O	L	Watchdog timer output. Not used.
79	XRES	XRES	I	L	Reset input.
80	MD0	MD0	I	-	Operation mode setting terminal (H).
81	MD1	MD1	I	-	Operation mode setting terminal (L). Set to Mode 1.
82	MD2	MD2	I	-	Operation mode setting terminal (L).
83	Vcc	Vcc	-	-	Power supply.
84	Vcc	Vcc	-	-	Power supply.
85	AVcc	AVcc	I	-	Analog power supply.
86	AVref	AVref	-	-	Analog reference voltage input.
87	AN0	AN0	-	-	Analog signal input (pull-up). Not used.
88	AN1	AN1	I	-	Analog signal input (pull-up). Not used.
89	AN2	AN2	I	-	Audio level (Lch) input.
90	AN3	AN3	I	-	Audio level (Rch) input.
91	AVss	AVss	-	-	Analog power grounding.
92	PC4	XSDET	I	-	Sync detection input.
93	PC5	XSEL2	I	-	Test mode determination input.
94	PC6	CDGM	I	H	Graphic input data detection input.
95	PC7	CTS	I	H	CTS (for RS-232).
96	Vss	Vss	-	-	Grounding.
97	PB0	FMATT	O	-	LD FM audio attenuation output.
98	PB1	BSEL	O	-	Hi Bit clock selection output.
99	Vcc	Vcc	-	-	Power supply.
100	TIOCA3	HIBSEL	O	-	Hi Bit expansion selection output.
101	PB3	XIRQCDROM	I	-	Interrupt input from CDROM decoder.
102	PB4	XRDY	I	L	Ready signal input from FL microprocessor.
103	PB5	DTR	O	-	DTR output (for RS-232).
104	PB6	GCS	O	H	Chip selection for CDG.
105	PB7	DPSEL	O	-	Optical output selection output. $\overline{\text{PCM}}$/AC3.
106	Vss	Vss	-	-	Grounding.
107	RxD0	SSI	I	-	Serial IN (synchronizing the clock).
108	TxD0	SSO	O	-	Serial OUT (synchronizing the clock).
109	RxD1	RXD	I	-	Serial IN (synchronizing adjustment).
110	TxD1	TXD	O	-	Serial OUT (synchronizing adjustment).
111	SCK0	SSCK	I/O	-	Serial clock input/output (synchronizing the clock).
112	XIRQ5	XQ10	I	L	Interrupt input from LSI-1 INT1.

■ PD4695A (DVD MAIN ASSY : IC161)

● DVD DECODER

● Block Diagram


Sub CPU Interface
Between CPUs Communication
Main CPU Interface
VBR_RAM Interface
Video Interface
ID Processor
Modulator
C1 Processor
C2 Processor
EDC Processor
Audio Interface
Analog Switch
C1_ECC
C2_ECC
SPDIF Interface
CDROM Interface
Spindle Servo
Test Circuit

● Pin Function

No.	Pin Name	I/O	Pin Function
1	GND	–	Ground for digital circuit
2	GND		
3	DXTLO	O	Connect a 27MHz crystal which is oscillated PLL reference clock When input a signal from the external, connect to DXTLI.
4	DXTLI	I	
5	VDD	–	Power supply for digital circuit Connect to +5V.
6	PEQL	I	Not used Fixed to GND or VDD.
7	PEQH	I	
8	SELNED	I	Set the input/output direction of NED (7:0), STB and BSYNC pins 0 for input.
9	STB	I/O	Strobe signal which is indicated data of after the 8/16 demodulation is in NED (7:0) pins
10	BSYNC	I/O	Pulse which is indicated the lead of ECC block
11	NED7	I/O	8 bit parallel data input/output of after the 8/16 demodulation
12	NED6		
13	NED5		
14	NED4		
15	VDD	–	Power supply for digital circuit Connect to +5V.
16	GND	–	Ground for digital circuit
17	NED3	I/O	8 bit parallel data input/output of after the 8/16 demodulation
18	NED2		
19	NED1		
20	NED0		
21	DD7	I/O	DRAM data bus for VBR buffer
22	DD6		
23	DD5		
24	DD4		
25	DD3		
26	GND	–	Ground for digital circuit

No.	Pin Name	I/O	Pin Function
27	VDD	–	Power supply for digital circuit Connect to +5V.
28	DD2	I/O	DRAM data bus for VBR buffer
29	DD1		
30	DD0		
31	XDRAS	O	DRAM RAS signal of VBR buffer
32	XDCAS	O	DRAM CAS signal of VBR buffer
33	XDOE	O	DRAM OE signal of VBR buffer
34	XDWE	O	DRAM WE signal of VBR buffer
35	DA10	O	DRAM address signal for VBR buffer
36	DA9		
37	DA8		
38	DA7		
39	DA6		
40	GND	–	Ground for digital circuit
41	VDD	–	Power supply for digital circuit Connect to +5V.
42	DA5	O	DRAM address signal for VBR buffer
43	DA4		
44	DA3		
45	DA2		
46	DA1		
47	DA0		
48	SREQ	I	Data transfer request pin from the MPEG decoder
49	XWR	O	Data transfer response pin to the MPEG decoder Output form is changed by setting.
50	XSACK		
51	GND	–	Ground for digital circuit
52	GND		
53	VDD	–	Power supply for digital circuit Connect to +5V.
54	SDATA0	O	Data output bus to the MPEG decoder
55	SDATA1		
56	SDATA2		
57	SDATA3		
58	GND	–	Ground for digital circuit
59	VDD	–	Power supply for digital circuit Connect to +5V.
60	SDATA4	O	Data output bus to the MPEG decoder
61	SDATA5		
62	SDATA6		
63	SDATA7		
64	LSYNC	O	Line sync. detecting output in the demodulator
65	DMACKI	I	System clock input of DVD and CD ROM decoder Input 10 to 29MHz.
66	GND	–	Ground for digital circuit
67	DMCKO	O	Outputs a clock which is oscillated and input at DXTLI and DXTLO pins Normally, connect to DMACKI.
68	XSCL1	I	Chip select signal from the main CPU When this signal is Low, XSRD/XSWR becomes effectively.
69	XSWAIT	O	WAIT output against to the main CPU When this pin is Low, you should not stop the access from the main CPU. This pin is open-drain.
70	XSRD	I	Connect to RD signal of main CPU
71	XSWR	I	Connect to WR signal of main CPU
72	XSDREQ	O	DMA request against to the main CPU Drive the DMA transfer at Low level or falling edge.
73	SDACK	I	DMA response signal When this signal is High, outputs the data to SAD (7:0).
74	XSDREQ2	I	Connect the DMA request signal of other device.
75	SA6	I	Connect the address bus of the main CPU
76	SA5		
77	SA4		

No.	Pin Name	I/O	Pin Function
78	VDD	–	Power supply for digital circuit Connedct to +5V.
79	GND	–	Ground for digital circuit
80	SA3	I	Connect the address bus of the main CPU
81	SA2		
82	SA1		
83	SA0		
84	SOUTH	O	Serial output which is used the DMA channel of CPU Outputs the upper nibble.
85	SAD7	I/O	Connect the data bus of the main CPU
86	SAD6		
87	SAD5		
88	SAD4		
89	VDD	–	Power supply for digital circuit Connedct to +5V.
90	GND	–	Ground for digital circuit
91	SAD3	I/O	Connect the data bus of the main CPU
92	SAD2		
93	SAD1		
94	SAD0		
95	DUTY50	O	Always outputs the duty 50% pulse Apply the reference voltage of each PWM signal of demodulation system.
96	XIRQ10	O	Low for require the interrupt against to the main CPU Setable the output pins with the register.
97	XIRQ11		
98	TSTSTB	I	Set the LSI to operate the test mode Test mode for High input.
99	BMODE0	I	Set to perform the any test in the test mode
100	BMODE1		
101	BMODE2		
102	BMODE3		
103	BUNRI	I	Separation test control pin of the internal RAM Inputs Low in the actual use.
104	VDD	–	Power supply for digital circuit Connedct to +5V.
105	GND	–	Ground for digital circuit
106	GND		
107	AXTLO	O	36.864MHz or 24.576MHz crystal connect pin which is oscillated the reference clock to use the audio output circuit. When input a signal from the external, connect to AXTLI.
108	AXTLI	I	
109	VDD	–	Power supply for digital circuit Connedct to +5V.
110	CKCD	I	Reference clock of CD audio output Inputs 16.9MHz.
111	GND	–	Ground for digital circuit
112	PV	O	When the master clock is AV synchronized, outputs the pulse which is frequency divided the audio side clock (AXTLI input) for apply to the PLL circuit.
113	PREF	O	When the master clock is AV synchronized, outputs the pulse which is frequency divided the video side clock (DMACKI input) for apply to the PLL circuit.
114	CKOUT	O	Frequency divided signal which is connected to AXTL pin and use for DAC control Frequency is changed by the mode.
115	BCK	O	Bit clock output to DAC and audio decoder It is 48fs or 64fs of the source.
116	LRCK	O	LRCK signal output to DAC and audio decoder
117	ADATA0	O	Outputs the compression data when source is AC3/MPEG and outputs CH0/CH1 when source is linear.
118	ADATA1	O	Output CH2/CH3 when source is linear
119	ADATA2		
120	ADATA3		
121	SBUSY	I	Busy signal for output control the serial output of SOUTL, SOUTH pins
122	DIFOUT0	O	Digital output by switching the compression data and linear data When linear data is output, output the same as that of the DIFOUT1.
123	DIFOUT1	O	Digital out for linear data only Outputs CH0&CH1/AC3/MPEG/CD of DVD linear correspond to the source.
124	VALID	O	When source is AC3/MPEG, it becomes High level during effective data output
125	DT3	I	Inputs linear data after the decode from audio decoder This data is digital output. Audio data is slave movement.

No.	Pin Name	I/O	Pin Function
126	CDBCK	I	Bit clock input from the CD decoder Expect frequency is 2.1168MHz (48fs).
127	CDLR	I	LRCK signal input from the CD decoder
128	CDDT	I	Audio data input from the CD decoder
129	CDDO	I	Digital output signal input from the CD decoder Outputs by switching it of DVD into LSI.
130	VDD	–	Power supply for digital circuit Connect to +5V.
131	GND	–	Ground for digital circuit
132	WFCK	I	CD frame clock signal Connect to same pin name pin of the CD decoder IC.
133	SCOR	I	CD subcode sync. input Connect to same pin name pin of the CD decoder IC.
134	SBSO	I	CD subcode data input Connect to same pin name pin of the CD decoder IC.
135	EXCK	O	Shift clock to making the timing of data transfer to SBSO pin
136	SOUTL	O	Serial output which is used the DMA channel of CPU and outputs the lower nibble
137	ASTB	I	Strobe signal which is indicated the address information in MAD (7:0) Connect to ASTB of sub CPU.
138	XMCS	I	Chip select signal from the sub CPU When this signal is Low, XMRD/XMWR will be effective.
139	XIRQ2	I	Low for require the interrupt against to the sub CPU
140	XMWR	I	Connect to WR signal of the sub CPU
141	XMRD	I	Connect to RD signal of the sub CPU
142	MAD7	I/O	Connect to multiplex bus of address data of the sub CPU
143	MAD6		
144	MAD5		
145	MAD4		
146	VDD	–	Power supply for digital circuit Connect to +5V.
147	GND	–	Ground for digital circuit
148	MAD3	I/O	Connect to multiplex bus of address data of the sub CPU
149	MAD2		
150	MAD1		
151	MAD0		
152			
153			
154			
155	GND	–	Ground for digital circuit
156	GND		
157	VDD	–	Power supply for digital circuit Connect to +5V.
158	XRESET	I	Initialize the whole LSI system by Low level input
159	FGPL	I	Rotation pulse input from the spindle motor
160	RFA	I	External binary RF signal input for the rough servo Connect to GND at not used.
161	FPWM	O	7 bit PWM output for the FG servo Tri-state output of High, Low and Hi-impedance
162	F_R	O	Rotaion direction of the spindle motor indicating output
163	VPWM	O	5 bit PWM output for the velocity servo Tri-state output of High, Low and Hi-impedance
164	GND	–	Ground for digital circuit
165	VDD	–	Power supply for digital circuit Connect to +5V.
166	PPWM	O	PWM output for the phase servo Tri-state output of High, Low and Hi-impedance
167	RPWM	O	4 bit PWM output for the rough servo Tri-state output of High, Low and Hi-impedance
168	RERR	O	Control pin for the rough servo Tri-state output of High, Low and Hi-impedance
169	PLRE	O	RRPW pin output without tri-state control
170	LOCAL	I	Input for local operaion of the demodulation system
171	SCLK	O	Clock pulse output with synchronizing the main data after the 8/16 demodulation Test signal to connect the error measuring instrument
172	SDATA	O	Serial output the main data after the 8/16 demodulation Test signal to connect the error measuring instrument
173	SEDI	I	Serial data input after the ビタビ複号 Normally, connect to SEDO pin.
174	SEDO	O	Serial data output after the ビタビ複号 Normally, connect to SEDI pin.
175	GND	–	Ground for digital circuit

No.	Pin Name	I/O	Pin Function
176	VCOCLK	I	System clock of the spindle demodulator Connect to the external VCO.
177	SLIP	O	When PLL cycle slip is occured, outputs the pulse of prescribed width.
178	APC	O	Phase difference of PLL outputs as PWM pulse
179	ATC	O	DC difference of RF signal outputs as PWM pulse
180	AFC	O	Frequency difference of PLL outputs as PWM pulse
181	DOC	O	When the polarity of RF signal is not turned more than 32 clocks, it is supposed to drop out then output the flag.
182	GND	–	Ground for digital circuit
183	VDD	–	Power supply for digital circuit Connect to +5V.
184			
185	AVDD	–	Power supply for analog circuit Connect to +5V.
186	AIN0	I	Analog switch input/output for controling the amplitude of RF signal Analog switch is ON/OFF correspond to the amplitude of RF signal
187	AOUT0	O	
188			
189	AIN1	I	Analog switch input/output for controling the amplitude of RF signal Analog switch is ON/OFF correspond to the amplitude of RF signal
190	AOUT1	O	
191			
192			
193	AIN2	I	Analog switch input/output for controling the amplitude of RF signal Analog switch is ON/OFF correspond to the amplitude of RF signal
194	AOUT2	O	
195			
196			
197	AIN3	I	Analog switch input/output for controling the amplitude of RF signal Analog switch is ON/OFF correspond to the amplitude of RF signal
198	AOUT3	O	
199	AGND	–	Ground for analog circuit
200	ADD0	I	Input RF sampling value after the A/D conversion to 8 bit parallel data
201	ADD1		
202	ADD2		
203	ADD3		
204	ADD4		
205	ADD5		
206	ADD6		
207	ADD7		
208	VDD	–	Power supply for digital circuit Connect to +5V.

■ HM514800CJ-7 (DVD MAIN ASSY : IC162)

● 4M DRAM

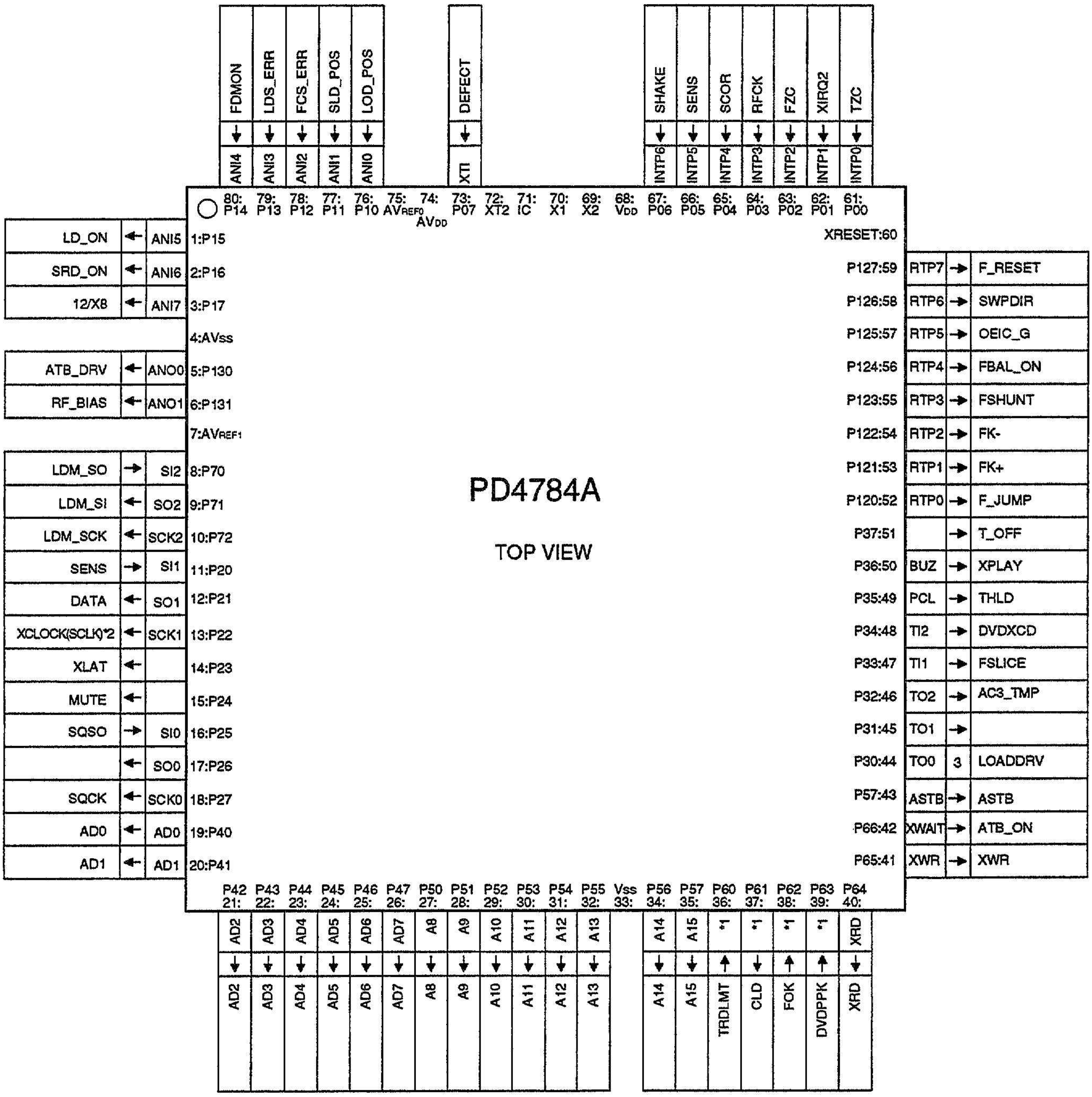
● Pin Function

No.	Pin Name	Pin Function
1	Vcc	Power supply
2	I/O0	Data input/output
3	I/O1	
4	I/O2	
5	I/O3	
6	NC	Non connection
7	$\overline{WE}$	Read/Write enable
8	$\overline{RAS}$	Low address strobe
9	A9	Address input/Refresh address input
10	A0	
11	A1	
12	A2	
13	A3	
14	Vcc	Power supply
15	Vss	Ground
16	A4	Address input/Refresh address input
17	A5	
18	A6	
19	A7	
20	A8	
21	NC	Non connection
22	OE	Output enable
23	CAS	Column address strobe
24	I/O4	Data input/output
25	I/O5	
26	I/O6	
27	I/O7	
28	Vss	Ground

■ PD4784A (DVD MAIN ASSY : IC201)

● MECHANISM CONTROL IC

● Pin Assignment


PD4784A
TOP VIEW
FDMON ↓ ANI4 80: P14
LDS_ERR ↓ ANI3 79: P13
FCS_ERR ↓ ANI2 78: P12
SLD_POS ↓ ANI1 77: P11
LOD_POS ↓ ANI0 76: P10
75: AVREF0
74: AVDD
DEFECT ↓ XTI 73: P07
72: XT2
71: IC
70: X1
69: X2
68: VDD
SHAKE ↓ INTP6 67: P06
SENS ↓ INTP5 66: P05
SCOR ↓ INTP4 65: P04
RFCK ↓ INTP3 64: P03
FZC ↓ INTP2 63: P02
XIRQ2 ↓ INTP1 62: P01
TZC ↓ INTP0 61: P00
LD_ON ← ANI5 1:P15
SRD_ON ← ANI6 2:P16
12/X8 ← ANI7 3:P17
4:AVss
ATB_DRV ← ANO0 5:P130
RF_BIAS ← ANO1 6:P131
7:AVREF1
LDM_SO → SI2 8:P70
LDM_SI ← SO2 9:P71
LDM_SCK ← SCK2 10:P72
SENS → SI1 11:P20
DATA ← SO1 12:P21
XCLOCK(SCLK)*2 ← SCK1 13:P22
XLAT ← 14:P23
MUTE ← 15:P24
SQSO → SI0 16:P25
← SO0 17:P26
SQCK ← SCK0 18:P27
AD0 ← AD0 19:P40
AD1 ← AD1 20:P41
P42 21: AD2 ↓ AD2
P43 22: AD3 ↓ AD3
P44 23: AD4 ↓ AD4
P45 24: AD5 ↓ AD5
P46 25: AD6 ↓ AD6
P47 26: AD7 ↓ AD7
P50 27: A8 ↓ A8
P51 28: A9 ↓ A9
P52 29: A10 ↓ A10
P53 30: A11 ↓ A11
P54 31: A12 ↓ A12
P55 32: A13 ↓ A13
Vss 33:
P56 34: A14 ↓ A14
P57 35: A15 ↓ A15
P60 36: *1 ↑ TRDLMT
P61 37: *1 ↓ CLD
P62 38: *1 ↑ FOK
P63 39: *1 ↑ DVDPPK
P64 40: XRD ↓ XRD
XRESET:60
P127:59 RTP7 → F_RESET
P126:58 RTP6 → SWPDIR
P125:57 RTP5 → OEIC_G
P124:56 RTP4 → FBAL_ON
P123:55 RTP3 → FSHUNT
P122:54 RTP2 → FK-
P121:53 RTP1 → FK+
P120:52 RTP0 → F_JUMP
P37:51 → T_OFF
P36:50 BUZ → XPLAY
P35:49 PCL → THLD
P34:48 TI2 → DVDXCD
P33:47 TI1 → FSLICE
P32:46 TO2 → AC3_TMP
P31:45 TO1 →
P30:44 TO0 3 LOADDRV
P57:43 ASTB → ASTB
P66:42 XWAIT → ATB_ON
P65:41 XWR → XWR

*1 Sets to open drain output during output.

*2 Connect to the XCLOC and SCLK terminals of CXD2545Q.

● Pin Function

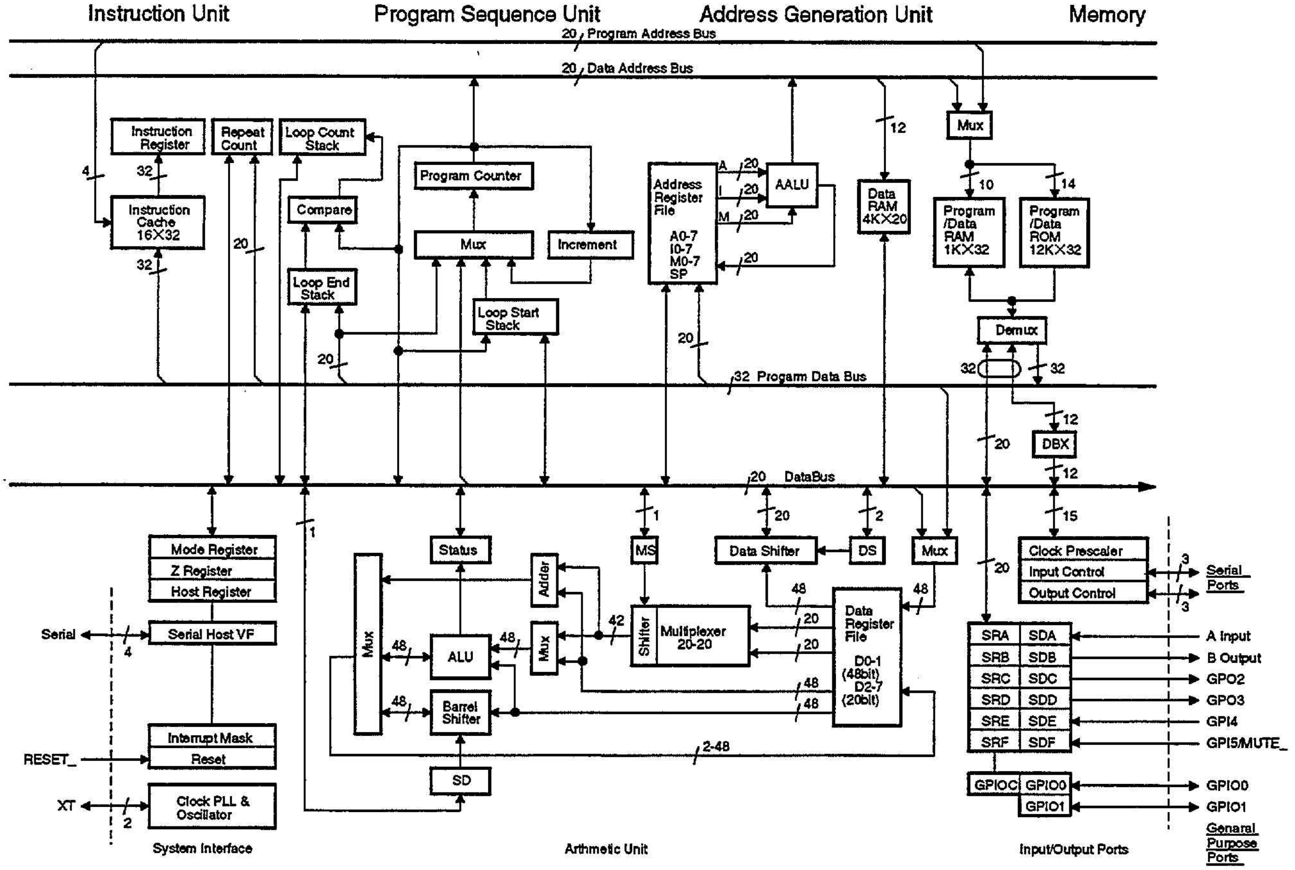
No.	Name	I/O	Function
1	LD_ON	OUT	Laser diode ON signal. H: active
2	SRD_ON	OUT	Switches command clock inhibit during serial read out. H: inhibit
3	12/X8.	OUT	DVD 8/12 cm switching signal.
4	AVss	-	Analog Ground.
5	ATB_DRV	D/A	ATB drive.
6	RF_BIAS	D/A	RD BIAS drive.
7	AVref1	-	Analog Reference Voltage1.
8	LDM_SO	Serial I	LD mechanical controller communications data IN (SD ← LD).
9	LDM_SI	Serial O	LD mechanical controller communications data OUT (SD → LD).
10	LDM_SCK	Serial O	LD mechanical controller communications data CLOCK (SD ← LD).
11	SENS	Serial I	CXD2545Q Serial Read Out function output data input.
12	DATA	Serial O	CXD2545Q command data output.
13	XCLOCK (SCLK)	Serial O	Clock for CXD2545Q command/serial read out function.
14	XLAT	OUT	CXD2545Q LATCH signal.
15	MUTE	OUT	Power ON MUTE signal.
16	SQSO	Serial I	CXD2545Q SubQ data input.
17	NC.	OUT	Available.
18	SQSK	Serial O	Clock for CXD2545Q SubQ.
19	AD0	IO	Address/Data Bus.
20	AD1	IO	
21	AD2	IO	
22	AD3	IO	
23	AD4	IO	
24	AD5	IO	
25	AD6	IO	
26	AD7	IO	
27	A8	OUT	Address Bus.
28	A9	OUT	
29	A10	OUT	
30	A11	OUT	
31	A12	OUT	
32	A13	OUT	
33	Vss	-	Ground.
34	A14	Expansion IO	Address Bus.
35	A15	Expansion IO	Address Bus.
36	TRDLMT.	IN	Tracking drive limit current detection signal input.
37	CLD	IN	Signal to control whether the pick of DVD or CD is active (Used with CLD compatible.).
38	FOK	IN	Focus OK signal.
39	DVDPRK	IN	DVD slider park IN signal (Used with CLD compatible.).
40	XRD	OUT	Read Strobe.

No.	Name	I/O	Function
41	XWR	OUT	Write Strobe.
42	ATB_ON	OUT	For ATB circuit ON/OFF.
43	ASTB	OUT	Address Strobe.
44	LOAD DRV	OUT	Loading drive.
45	NC.	OUT	Available.
46	AC3_TMP.	OUT	Signal for controlling AC3.
47	NC.	OUT	Available.
48	DVD/XCD	OUT	DVD/CD change-over SW (H: DVD, L: CD). The switch switches spindle error signal, etc.
49	THLD	OUT	Tracking hold signal ("H" duing jump).
50	XPLAY	OUT	For off-track measure circuit.
51	T_OFF		
52	F_JUMP	OUT	Focus jump switching signal ("H" during jump).
53	FK+	OUT	Focus jump kick pulse (+).
54	FK-	OUT	Focus jump kick pulse (-).
55	FCHUNT	OUT	Focus SHUNT SW control.
56	FBAL_ON	OUT	Focus Balance circuit control signal.
57	OEIC_G	OUT	OEIC GAIN SW switching signal.
58	SWPDIR	OUT	Sweep direction control.
59	GAIN_JDGE	OUT	Signal for disc judgment.
59	F_RESET	OUT	Peak hold reset signal for focus S.
60	XRESET	-	Mechanical controller hardware reset signal.
61	TZC	IN	TZC input.
62	XIRQ	IN	LSI1 interrupt (DVD-ID, system controller communications, FG-spindle).
63	FZC	IN	FZC interrupt (focus jump).
64	RFCK	IN	RFCK interrupt (error rate measurement).
65	SCOR	IN	SCOR interrupt (SubQ).
66	SENS	IN	SENS interrupt (fine search/MTJ) SENS monitor.
67	SHAKE	I/O	SHAKE interrupt input/SHAKE output (LD mechanical controller communications when CLD compatible is used).
68	Vdd	-	Power Supply (+5V).
69	X2	-	Cristal (Main System Clock).
70	X1	-	Cristal (Main System Clock).
71	IC	-	Internally Connected.
72	XT2	-	Crystal (Sub System Clock) ← Clock.
73	DEFECT	IN	DETECT signal input.
74	AVdd	-	Analog Power Supply.
75	AVref0	-	Analog Refernce Voltage0.
76	LOAD_POS	A/D	Loading SW read signal.
77	SLD_POS	A/D	Slider SW read signal.
78	FCS_ERR	A/D	Focus error signal.
79	LDSLDERR	A/D	SLD error input of LD pick-up (when compatible is used).
80	FDMON	A/D	A/D input signal for disc judgment.

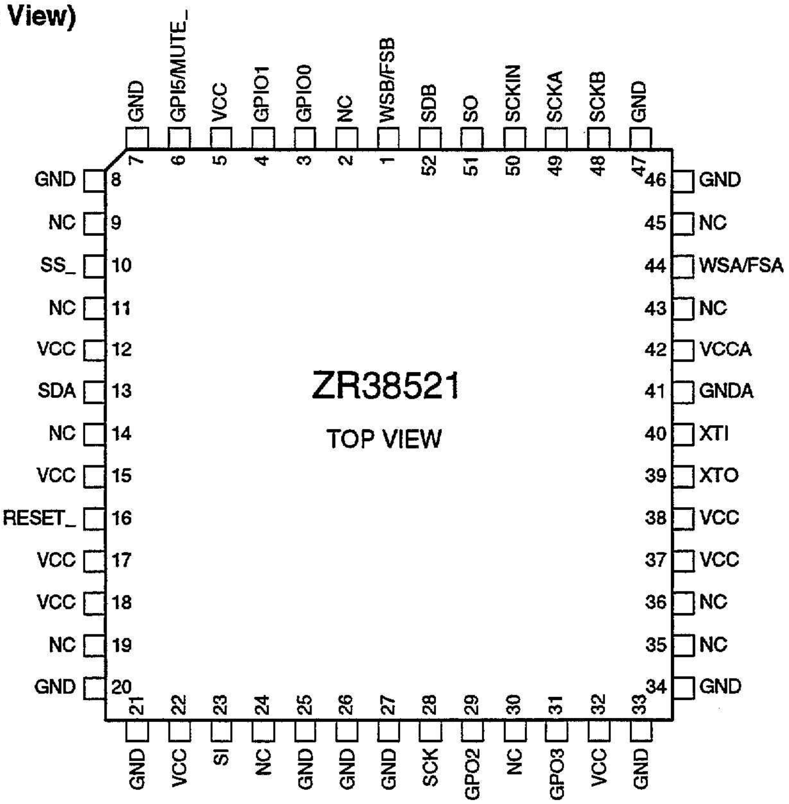
■ ZR38521 (DVD MAIN ASSY : IC301)

● AC-3 AUDIO DECODER

● Block Diagram


Instruction Unit
Program Sequence Unit
Address Generation Unit
Memory
20 Program Address Bus
20 Data Address Bus
Instruction Register
Repeat Count
Loop Count Stack
Instruction Cache 16X32
Compare
Loop End Stack
Program Counter
Mux
Increment
Loop Start Stack
Address Register File A0-7 I0-7 M0-7 SP
AALU
Data RAM 4KX20
Mux
Program /Data RAM 1KX32
Program /Data ROM 12KX32
Demux
32 Progam Data Bus
DBX
20 DataBus
Mode Register
Z Register
Host Register
Serial
Serial Host VF
Interrupt Mask
Reset
RESET_
XT
Clock PLL & Oscillator
System Interface
Mux
Status
Adder
ALU
Mux
Barrel Shifter
SD
MS
Shifter
Multiplexer 20-20
Data Shifter
DS
Data Register File D0-1 (48bit) D2-7 (20bit)
Mux
2-48
Arthmetic Unit
Clock Prescaler
Input Control
Output Control
Serial Ports
SRA SDA
SRB SDB
SRC SDC
SRD SDD
SRE SDE
SRF SDF
A Input
B Output
GPO2
GPO3
GPI4
GPI5/MUTE_
GPIOC GPIO0
GPIO1
GPIO0
GPIO1
Input/Output Ports
Genaral Purpose Ports

● Pin Assignment (Top View)


ZR38521
TOP VIEW
1 WSB/FSB
2 NC
3 GPIO0
4 GPIO1
5 VCC
6 GPI5/MUTE_
7 GND
8 GND
9 NC
10 SS_
11 NC
12 VCC
13 SDA
14 NC
15 VCC
16 RESET_
17 VCC
18 VCC
19 NC
20 GND
21 GND
22 VCC
23 SI
24 NC
25 GND
26 GND
27 GND
28 SCK
29 GPO2
30 NC
31 GPO3
32 VCC
33 GND
34 GND
35 NC
36 NC
37 VCC
38 VCC
39 XTO
40 XTI
41 GNDA
42 VCCA
43 NC
44 WSA/FSA
45 NC
46 GND
47 GND
48 SCKB
49 SCKA
50 SCKIN
51 SO
52 SDB

● Pin Function

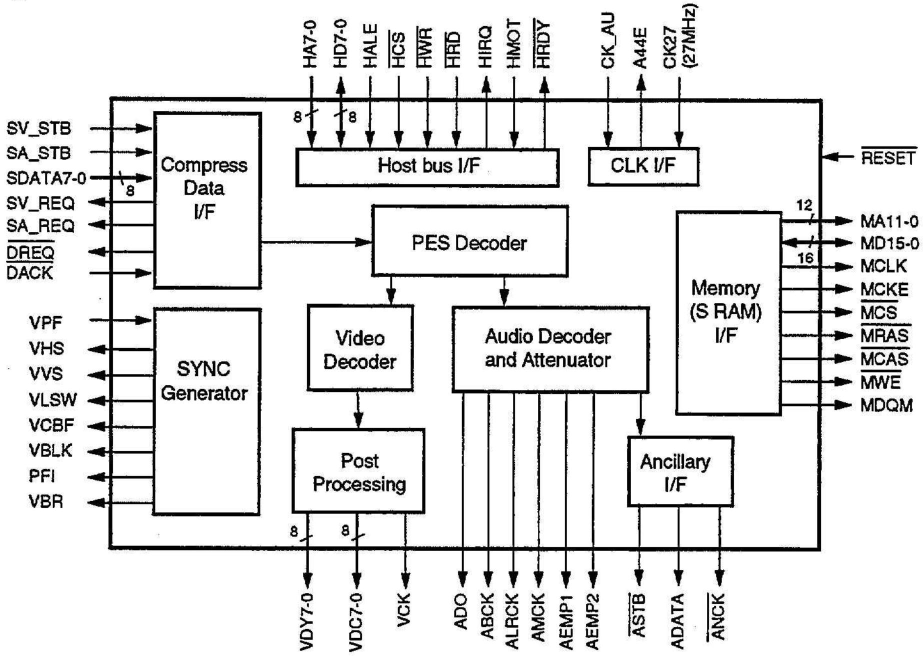
No.	Name	I/O	Function
1	WSB/FSB	I/O	Word selection or frame synchronous input/output for B Group serial port.
2	NC	-	Not used.
3	GPIO0	I/O	General-purpose I/O pin.
4	GPIO1	I/O	General-purpose I/O pin.
5	VCC	P	Power pin.
6	GPI5/MUTE	I	General-purpose input/mute pin.
7	GND	P	GND pin.
8	GND	P	GND pin.
9	NC	-	Not used.
10	SS_	I	Serial port interface: slave selection input (SPI).
11	NC	-	Not used.
12	VCC	P	Power pin.
13	SDA	I	Data input for serial port A.
14	NC	-	Not used.
15	VCC	P	Power pin.
16	RESET_	I	Reset input.
17	VCC	P	Power pin.
18	VCC	P	Power pin.
19	NC	-	Not used.
20	GND	P	GND pin.
21	GND	P	GND pin.
22	VCC	P	Power pin.
23	SI	I	Serial port interface: serial data input (SPI).
24	NC	-	Not used.
25	GND	I	GND pin.
26	GND	I	GND pin.
27	GND	P	GND pin.
28	SCK	I	Serial port interface: clock input (SPI).
29	GPO2	O	General-purpose output pin.
30	NC	-	Not used.
31	GPO3	O	General-purpose output pin.
32	VCC	P	Power pin.
33	GND	P	GND pin.
34	GND	P	GND pin.
35	NC	-	Not used.
36	NC	-	Not used.
37	VCC	P	Power pin.
38	VCC	P	Power pin.
39	XTO	O	Crystal oscillator output terminal.
40	XTI	I	Crystal oscillator input terminal.
41	GNDA	P	GND pin.
42	VCCA	P	Power pin.
43	NC	-	Not used.
44	WSA/FSA	I/O	Word selection or frame synchronous input/output for A Group serial port (for input).
45	NC	-	Not used.
46	GND	P	GND pin.
47	GND	P	GND pin.
48	SCKB	I/O	Clock input/output for B Group serial port.
49	SCKA	I/O	Clock input/output for A Group serial port.
50	SCKIN	I/O	Clock input/output for B Group serial port.
51	SO	O	Serial port interface: serial data output (SPI).
52	SDB	O	Data input for serial port B.

Note:
1) Connect an input terminal not to be used (TYPE = I) to VCC if active Low, or to GND if active High.
2) Do not connect output not to be used (TYPE = O), try state (TYPE = T), and NC terminal.

■ UPD61021 (DVD MAIN ASSY : IC401)

● MPEG2 DECODER

● Block Diagram


HA7-0
HD7-0
HALE
HCS
HWR
HRD
HIRQ
HMOT
HRDY
CK_AU
A44E
CK27 (27MHz)
8
8
Host bus I/F
CLK I/F
RESET
SV_STB
SA_STB
SDATA7-0
8
SV_REQ
SA_REQ
DREQ
DACK
Compress Data I/F
PES Decoder
Memory (S RAM) I/F
12
16
MA11-0
MD15-0
MCLK
MCKE
MCS
MRAS
MCAS
MWE
MDQM
VPF
VHS
VVS
VLSW
VCBF
VBLK
PFI
VBR
SYNC Generator
Video Decoder
Audio Decoder and Attenuator
Post Processing
Ancillary I/F
8
8
VDY7-0
VDC7-0
VCK
ADO
ABCK
ALRCK
AMCK
AEMP1
AEMP2
ASTB
ADATA
ANCK

● Pin Function

No.	Pin Name	I/O	Pin Function
1	MD7	I/O	Data bus for 16 bit memory interface
2	MD6		
3	GND	–	Ground pin
4	MD5	I/O	Data bus for 16 bit memory interface
5	MD4		
6	VDD	–	Power supply pin
7	MD3	I/O	Data bus for 16 bit memory interface
8	MD2		
9	GND	–	Ground pin
10	MD1	I/O	Data bus for 16 bit memory interface
11	MD0		
12	VDD	–	Power supply pin
13	MD15	I/O	Data bus for 16 bit memory interface
14	MD14		
15	GND	–	Ground pin
16	MD13	I/O	Data bus for 16 bit memory interface
17	MD12		
18	VDD	–	Power supply pin
19	MD11	I/O	Data bus for 16 bit memory interface
20	MD10		
21	GND	–	Ground pin
22	MD9	I/O	Data bus for 16 bit memory interface
23	MD8		
24	VDD	–	Power supply pin
25	MDQM	O	Mask enable output signal of data input / output
26	MCLK	O	81MHz system clock output for memory
27	MCKE	O	Clock enable output signal
28	GND	–	Ground pin
29	CK27	I	27MHz master clock input
30	TCK81	I	Test clock pin Input 81MHz. Connect to GND in the actual use.
31	VDD	–	Power supply pin
32	T_RESET	I	Test reset pin Connect to GND in the actual use.
33	GND	–	Ground pin
34	T_PLL	I	PLL test input pin Connect to GND in the normal use.
35	TPH0	O	Test output pin Open in the actual use.
36	YPH1		
37	VDD	–	Power supply pin
38	VPF	I	Freeze signal Input when freezing the picture. Freeze is able to performed by the software command.
39	VFI	O	Field index signal output Discriminate the output picture data is ODD or EVEN.
40	VBR	O	Flag signal of the Video chroma Cb

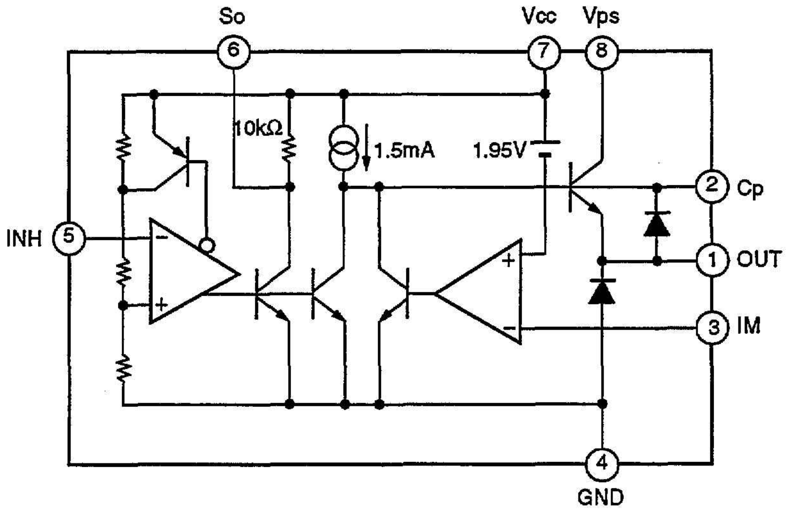
No.	Pin Name	I/O	Pin Function
41	VBLK	O	Composite blanking output and clock reference signal Selectable by mode setting
42	VCBF	O	Color burst insertion position signal
43	VLSW	O	Line switch (at PAL used)
44	VVS	O	Vertical sync. signal output Also selectable to vertical reset signal by mode setting.
45	VHS	O	Horizontal sync. signal output Selectable to composite sync. signal or horizontal reset signal by mode register setting
46	GND	–	Ground pin
47	VCK	O	Video data clock output Frequency outputs to 27MHz and 13.5MHz.
48	VDD	–	Power supply pin
49	VDC0	O	Video chroma Cb and Cr output These pins output Cb and Cr video signal at 16 bit mode.
50	VDC1		
51	VDC2		
52	VDC3		
53	GND	–	Ground pin
54	VDC4	O	Video chroma Cb and Cr output These pins output Cb and Cr video signal at 16 bit mode.
55	VDC5		
56	VDC6		
57	VDC7		
58	VDD	–	Power supply pin
59	VDY0	O	Video data output Output Y data only at 16 bit mode. Output Cb, Y, Cr and Y video format at 8 bit mode.
60	VDY1		
61	VDY2		
62	VDY3		
63	GND	–	Ground pin
64	VDY4	O	Video data output Output Y data only at 16 bit mode. Output Cb, Y, Cr and Y video format at 8 bit mode.
65	VDY5		
66	VDY6		
67	VDY7		
68	VDD	–	Power supply pin
69	ADO	O	PCM data output
70	ABCK	O	Audio data clock output
71	ALRCK	O	LR switching signal
72	AMCK	O	Master clock for audio Outputs same frequency as CK_AU pin
73	AEMP2	O	Emphasis output When existing the emphasis in conformity to 50 / 15µs, outputs "H".
74	AEMP1	O	Emphasis output When existing the emphasis in conformity to ITU-TJ.71, outputs "H".
75	$\overline{\text{ASTB}}$	O	Ancillary strobe signal
76	ADATA	O	Ancillary data output
77	$\overline{\text{ANCK}}$	O	Clock signal at ancillary data output
78	GND	–	Ground pin
79	$\overline{\text{DREQ}}$	O	Request signal when stream input via the host path.
80	$\overline{\text{DACK}}$	I	Acknowledge signal when stream input via the host path.
81	A44E	O	Status signal of sampling clock of the decode When compound with 44.1kHz, it becomes "H".
82	CK_AU	I	Audio sampling clock input
83	VDD	–	Power supply pin
84	$\overline{\text{RESET}}$	I	Reset input
85	HMOT	I	Host interface mode selection HMOT : When set to H, it becomes bus mode of 68 system.
86	HIRQ	O	Interrupt request signal to the host This pin becomes active when accepting the interrupt. This pin is tri-state output.
87	$\overline{\text{HRDY}}$	O	Tri-state ready output Communicate the end of bus cycle to the host CPU in the 68k mode. Use for Wait signal in the 78k0 mode.
88	$\overline{\text{HWR}}$	I	Enable signal when the host is wrote Input WR signal in the 78k bus mode. Input R/W signal in the 68k bus mode.
89	$\overline{\text{HRD}}$	I	Enable signal when the host is readed Input RD signal in the 78k bus mode. Input data strobe signal in the 68k bus mode.
90	$\overline{\text{HCS}}$	I	Chip select signal of active "L"
91	HALE	I	Address latch enable signal When address and data is not multiplexed, pull-up to "H".
92	GND	–	Ground pin
93	HD0	I/O	Data bus for 8 bit host interface Lower 8 bit address of the host is able to input with multiplex.
94	HD1		
95	HD2		
96	HD3		
97	VDD	–	Power supply pin
98	HD4	I/O	Data bus for 8 bit host interface Lower 8 bit address of the host is able to input with multiplex.
99	HD5		
100	HD6		
101	HD7		
102	GND	–	Ground pin
103	HA0	I	Host address bus input This address bus is able to multipled to HD7-0
104	HA1		
105	HA2		
106	HA3		
107	VDD	–	Power supply pin
108	HA4	I	Host address bus input This address bus is able to multipled to HD7-0
109	HA5		
110	HA6		
111	HA7		
112	GND	–	Ground pin

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
113	TM0	I	Test mode input Connect to GND excepting test.	137	MST4	O	Test output Set to open in the actual use.
114	TM1			138	MST3		
115	TS0	O	Test output Set to open in the actual use.	139	MST2		
116	TS1			140	MST1		
117	TS2			141	MST0		
118	TS3			142	VDD	–	Power supply pin
119	TS4			143	MA9	O	Address output Output low address to MA11-0 and column address to MA8-0 with multiplex.
120	TS5			144	MA8		
121	VDD	–	Power supply pin	145	MA7		
122	SDATA7	I	A/V PES stream data bus	146	MA6		
123	SDATA6			147	MA5		
124	SDATA5			148	MA4		
125	SDATA4			149	GND	–	Ground pin
126	GND	–	Ground pin	150	MA3	O	Address output Output low address to MA11-0 and column address to MA8-0 with multiplex.
127	SDATA3	I	A/V PES stream data bus	151	MA2		
128	SDATA2			152	MA1		
129	SDATA1			153	MA0		
130	SDATA0			154	MA10		
131	VDD	–	Power supply pin	155	MA11		
132	SV_STB	I	Video PES stream data strobe signal	156	MCS	O	Chip select output
133	$\overline{\text{SA\_STB}}$	I	Audio PES stream data strobe signal	157	$\overline{\text{MRAS}}$	O	Low address strobe signal
134	$\overline{\text{SV\_REQ}}$	O	Video PES stream data request signal	158	$\overline{\text{MCAS}}$	O	Column address strobe signal
135	$\overline{\text{SA\_REQ}}$	O	Audio PES stream data request signal	159	$\overline{\text{MWE}}$	O	Write enable signal
136	GND	–	Ground pin	160	VDD	–	Power supply pin

■ IR3C07N (DVD MAIN ASSY : IC995)

● LASER DIODE DRIVER

● Block Diagram



● Pin Function

No.	Mark	Pin Function
1	OUT	Output
2	Cp	Phase compensation
3	IM	Monitor input
4	GND	Ground
5	INH	Inhibit input (ON, OFF)
6	So	Operating signal output
7	Vcc	Power supply for control circuit
8	Vps	Power supply for laser driver

■ UPD4516161G5-A12-7JF (DVD MAIN ASSY : IC421)

● SYNCHRONOUS DRAM

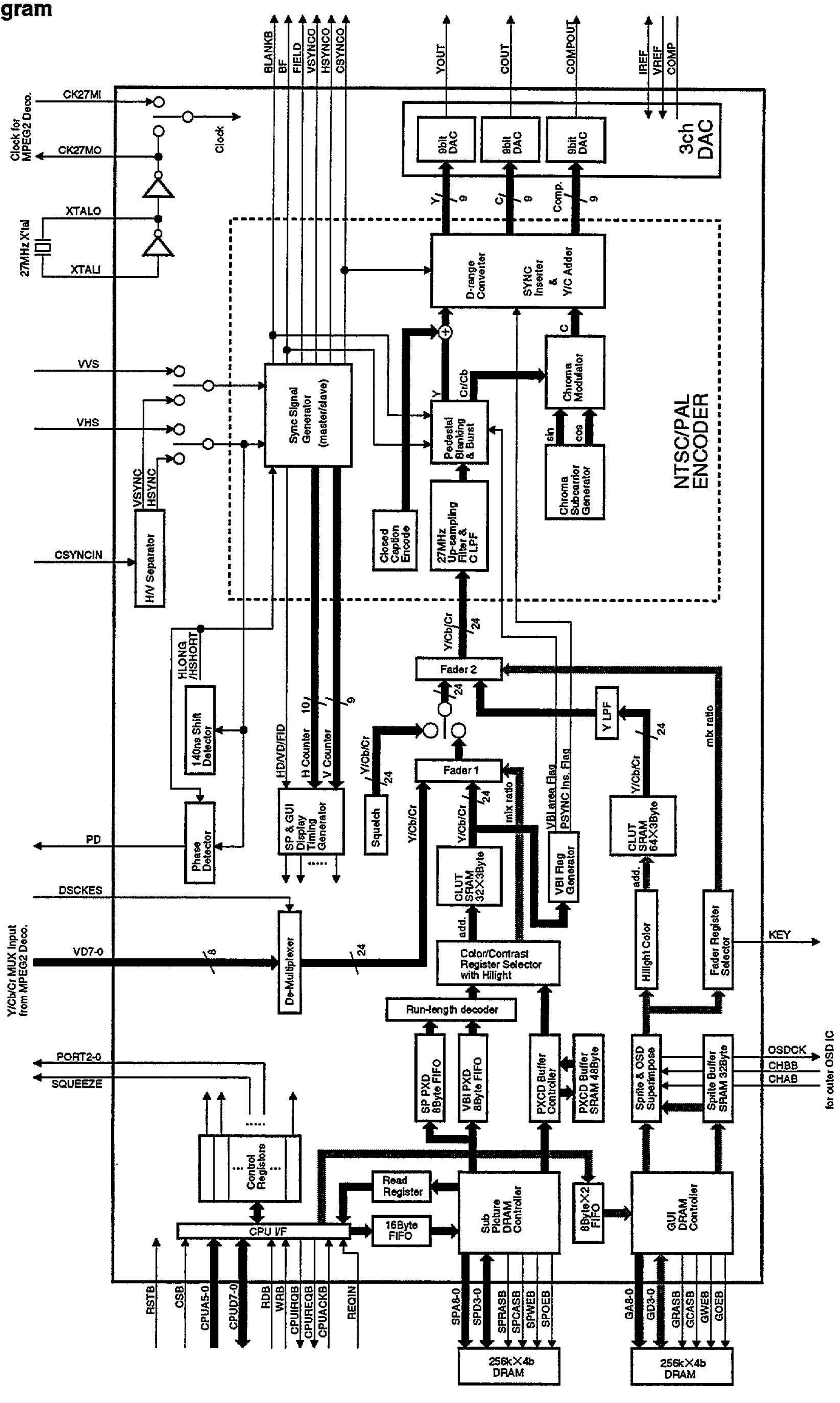
● Pin Function

No.	Pin Name	Pin Function	No.	Pin Name	Pin Function
1	Vcc	Power supply	26	Vss	Ground
2	DQ0	Data input/output	27	A4	Address input
3	DQ1		28	A5	
4	VssQ	Ground for DQ	29	A6	
5	DQ2	Data input/output	30	A7	
6	DQ3		31	A8	
7	VccQ	Power supply for DQ	32	A9	
8	DQ4	Data input/output	33	NC	Non connection
9	DQ5		34	CKE	Clock enable
10	VssQ	Ground for DQ	35	CLK	System clock input
11	DQ6	Data input/output	36	UDQM	Upper DQ mask enable
12	DQ7		37	NC	Non connection
13	VccQ	Power supply for DQ	38	VccQ	Power supply for DQ
14	LDQM	Low DQ mask enable	39	DQ8	Data input/output
15	$\overline{\text{WE}}$	Write enable	40	DQ9	
16	$\overline{\text{CAS}}$	Column address strobe	41	VssQ	Ground for DQ
17	$\overline{\text{RAS}}$	Row address strobe	42	DQ10	Data input/output
18	$\overline{\text{CS}}$	Chip select	43	DQ11	
19	A11	Address input	44	VccQ	Power supply for DQ
20	A10		45	DQ12	Data input/output
21	A0		46	DQ13	
22	A1		47	VssQ	Ground for DQ
23	A2		48	DQ14	Data input/output
24	A3		49	DQ15	
25	Vcc	Power supply	50	Vss	Ground

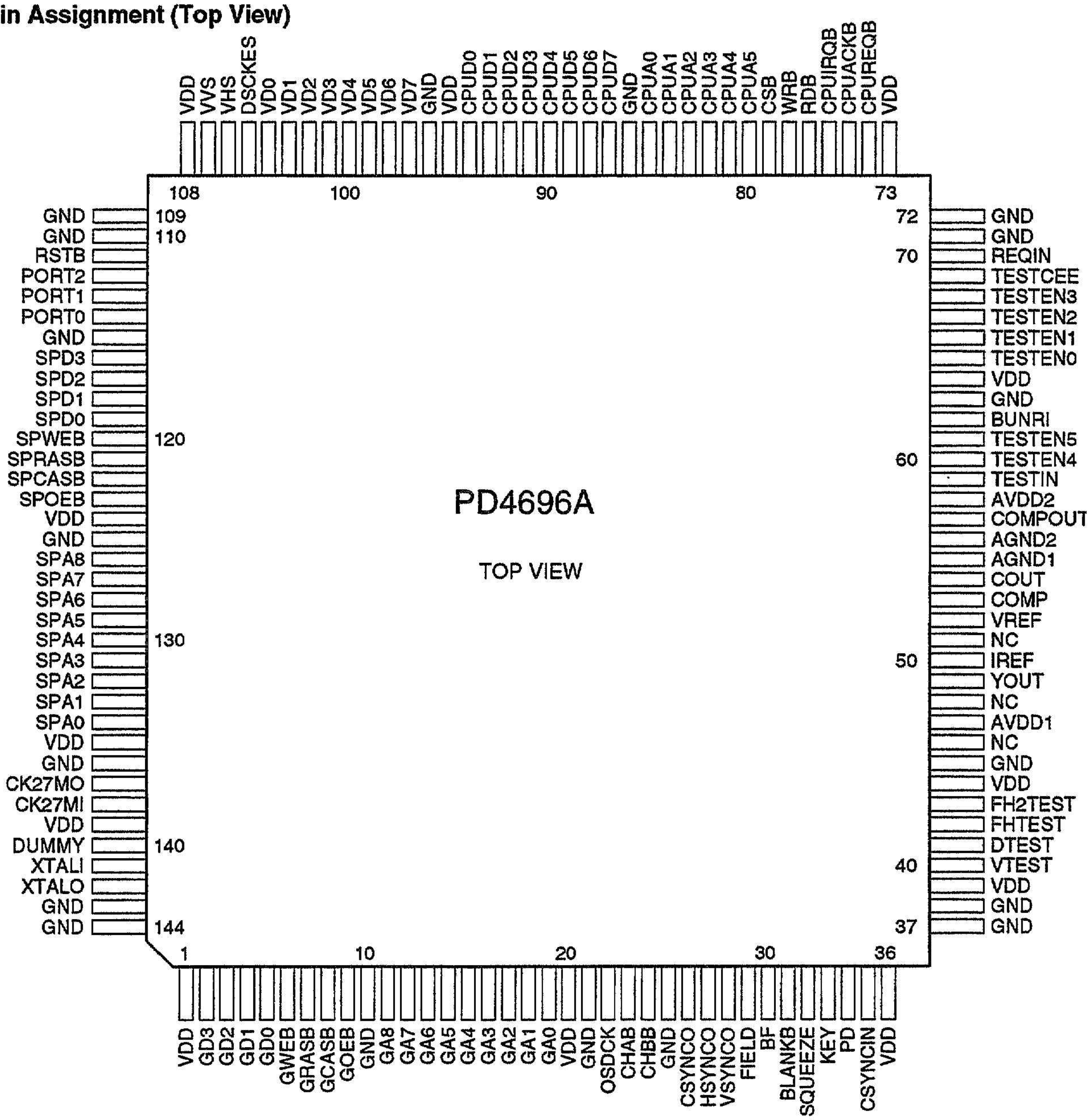
■ PD4696A (DVD MAIN ASSY : IC501)

● VIDEO ENCODER

● Block Diagram


BLANKB
BF
FIELD
VSYNCO
HSYNCO
CSYNCO
YOUT
COUT
COMPOUT
IREF
VREF
COMP
CK27MI
Clock for MPEG2 Deco.
CK27MO
Clock
XTALO
27MHz X'tal
XTALI
9bit DAC
9bit DAC
9bit DAC
3ch DAC
Y
9
Cr
9
Comp.
9
D-range Converter
SYNC Inserter & Y/C Adder
VVS
VHS
VSYNC
HSYNC
CSYNCIN
H/V Separator
Sync Signal Generator (master/slave)
Y
Cr/Cb
C
Chroma Modulator
Pedestal Blanking & Burst
sin
cos
Chroma Subcarrier Generator
NTSC/PAL ENCODER
Closed Caption Encode
27MHz Up-sampling Filter & C LPF
Y/Cb/Cr
24
Fader 2
HLONG /HSHORT
140ns Shift Detector
HD/VD/FID
H Counter
10
V Counter
9
Y/Cb/Cr
24
24
Y LPF
24
mix ratio
Fader 1
Y/Cb/Cr
24
mix ratio
VBI area Flag
PSYNC Ins. Flag
Y/Cb/Cr
CLUT SRAM 64X3Byte
Squelch
Y/Cb/Cr
SP & GUI Display Timing Generator
CLUT SRAM 32X3Byte
VBI Flag Generator
PD
Phase Detector
add.
add.
Hilight Color
Fader Register Selector
DSCKES
KEY
Y/Cb/Cr MUX Input from MPEG2 Deco.
VD7-0
8
De-Multiplexer
24
Color/Contrast Register Selector with Hilight
Run-length decoder
PORT2-0
SQUEEZE
SP PXD 8Byte FIFO
VBI PXD 8Byte FIFO
PXCD Buffer Controller
PXCD Buffer SRAM 48Byte
Sprite & OSD Superimpose
Sprite Buffer SRAM 32Byte
OSDCK
CHBB
CHAB
for outer OSD IC
Control Registors
Read Register
CPU I/F
16Byte FIFO
Sub Picture DRAM Controller
8ByteX2 FIFO
GUI DRAM Controller
RSTB
CSB
CPUA5-0
CPUD7-0
RDB
WRB
CPUIRQB
CPUREQB
CPUACKB
REQIN
SPA8-0
SPD3-0
SPRASB
SPCASB
SPWEB
SPOEB
GA8-0
GD3-0
GRASB
GCASB
GWEB
GOEB
256kX4b DRAM
256kX4b DRAM

● Pin Assignment (Top View)


PD4696A
TOP VIEW
108
100
90
80
73
VDD
VVS
VHS
DSCKES
VD0
VD1
VD2
VD3
VD4
VD5
VD6
VD7
GND
VDD
CPUD0
CPUD1
CPUD2
CPUD3
CPUD4
CPUD5
CPUD6
CPUD7
GND
CPUA0
CPUA1
CPUA2
CPUA3
CPUA4
CPUA5
CSB
WRB
RDB
CPUIRQB
CPUACKB
CPUREQB
VDD
109
110
120
130
140
144
GND
GND
RSTB
PORT2
PORT1
PORT0
GND
SPD3
SPD2
SPD1
SPD0
SPWEB
SPRASB
SPCASB
SPOEB
VDD
GND
SPA8
SPA7
SPA6
SPA5
SPA4
SPA3
SPA2
SPA1
SPA0
VDD
GND
CK27MO
CK27MI
VDD
DUMMY
XTALI
XTALO
GND
GND
72
70
60
50
40
37
GND
GND
REQIN
TESTCEE
TESTEN3
TESTEN2
TESTEN1
TESTEN0
VDD
GND
BUNRI
TESTEN5
TESTEN4
TESTIN
AVDD2
COMPOUT
AGND2
AGND1
COUT
COMP
VREF
NC
IREF
YOUT
NC
AVDD1
NC
GND
VDD
FH2TEST
FHTEST
DTEST
VTEST
VDD
GND
GND
1
10
20
30
36
VDD
GD3
GD2
GD1
GD0
GWEB
GRASB
GCASB
GOEB
GND
GA8
GA7
GA6
GA5
GA4
GA3
GA2
GA1
GA0
VDD
GND
OSDCK
CHAB
CHBB
GND
CSYNCO
HSYNCO
VSYNCO
FIELD
BF
BLANKB
SQUEEZE
KEY
PD
CSYNCIN
VDD

● Pin Function

No.	Name	I/O	Function
1	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
2	GD3	I/O	DRAM data input/output for GUI. Connect to data input/output of 256 k54 bits DRAM.
3	GD2		
4	GD1		
5	GD0		
6	GWEB	O	/WE output to DRAM for GUI. Connect to the /WE terminal of 256 k54 bits DRAM.
7	GRASB	O	/RAS output to DRAM for GUI. Connect to the /RAS terminal of 256 k54 bits DRAM.
8	GCASB	O	/CAS output to DRAM for GUI. Connect to the /CAS terminal of 256 k54 bits DRAM.
9	GOEB	O	/OE output to DRAM for GUI. Connect to the /OE terminal of 256 k54 bits DRAM.
10	GND	-	Grounding terminal. Connect to GND (GND of the logic system).

No.	Name	I/O	Function
11	GA8	O	Address output of DRAM for GUI. Connect to address output of 256 k54 bits DRAM. GAO is LSB, and GA8 is MSB.
12	GA7		
13	GA6		
14	GA5		
15	GA4		
16	GA3		
17	GA2		
18	GA1		
19	GA0		
20	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
21	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
22	OSDCK	O	Clock output when using OSD IC as external. Connect to clock input of OSD IC (6.75 MHz).
23	CHAB	I	Connects character output of OSD IC when using the OSD IC as external. Character colors fom the color pallet according to OSD mode will be superimposed on video output when the system is set to “L”.
24	CHBB	I	Connects character frame output of OSD IC when using the OSD IC as external. Character frame colors from the color pallet according to OSD mode will be superimposed on video output when the system is set to “L”.
25	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
26	CSYNCO	O	Composite sync output from built-in SSG. Synchronizes video output (negative logic).
27	HSYNCO	O	H sync output from built-in SSG. Synchronizes video output (negative logic).
28	VSYNCO	O	V sync output from built-in SSG. Synchronizes video output (negative logic).
29	FIELD	O	Field output from built-in SSG. Synchronizes the field of video output. Indicates “Odd” when the system is set to “H” and “Even” when “L”.
30	BF	O	Burst flag output from built-in SSG. The system indicates the position of burst of video output with “H”.
31	BLANKB	O	Blanking output from built-in SSG. The system indicates the blanking area between H and V of video output with “L”.
32	SQUEEZE	O	Outputs the content of built-in register of the same name.
33	KEY	O	Outputs “H” if the value of fader corresponding the value of pixel of GUI is other than zero (0) when the value of KEY_EN register is “H” Otherwise outputs “L” Synchronizes the pixel position of video output (delay is also possible). The system is fixed.
34	PD	O	Outputs the result of comparison of phases of H sync of external input and H sync of built-in SSG in three states. “L”/”H” shows the polarity, and the pulse width shows the phase difference. ON/OFF and polarity of output are set by the register.
35	CSYNCIN	I	Composite sync input for external synchronization. The composite sync separates into H sync and V sync inside the system to synchronize built-in SSG or output the results of comparison of H phases from PD.
36	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
37	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
38	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
39	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
40	VTEST	-	Test terminal. Leave it open (terminal for IC test).
41	DTEST		
42	FHTEST		
43	FH2TEST		
44	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
45	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
46	NC	-	No connection. Leave it open.
47	AVDD1	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
48	NC	-	No connection. Leave it open.
49	YOUT	O	Analog video output of luminance signal. Composite sync signal is superimposed. Connect the load of standard 150Ωbetween GND of the analog system.
50	IREF	I	Terminal for adjustment of video output current (full-scale current). Connect the reference resistor of standard 1.1kΩ between GND of the analog system.
51	NC	-	No connection. Leave it open.
52	VREF	I	Terminal for adjustment of video output current (full-scale current). Apply the reference voltage of standard 1.0V.
53	COMP	I	Terminal to compensate phase of built-in DA convertor. Connect the capacitor of standard 0.1ΩF between GND of the analog system.
54	COUT	O	Analog video output of color signal. Connect the load of standard 150Ω between GND of the analog system.
55	AGND1	-	Grounding terminal. Connect to GND (GND of the analog system).
56	AGND2	-	Grounding terminal. Connect to GND (GND of the analog system).
57	COMPOUT	O	Analog video output of composite video signal. Composite sync signal is superimposed. Connect the load of standard 150â+ between GND of the analog system.
58	AVDD2	-	Power terminal. Connect to +3.3 V (VDD of the analog system).
59	TESTIN	-	Test terminal. Leave it open (terminal for IC test).
60	TESTEN4		
61	TESTEN5		
62	BUNRI		

PD4696A

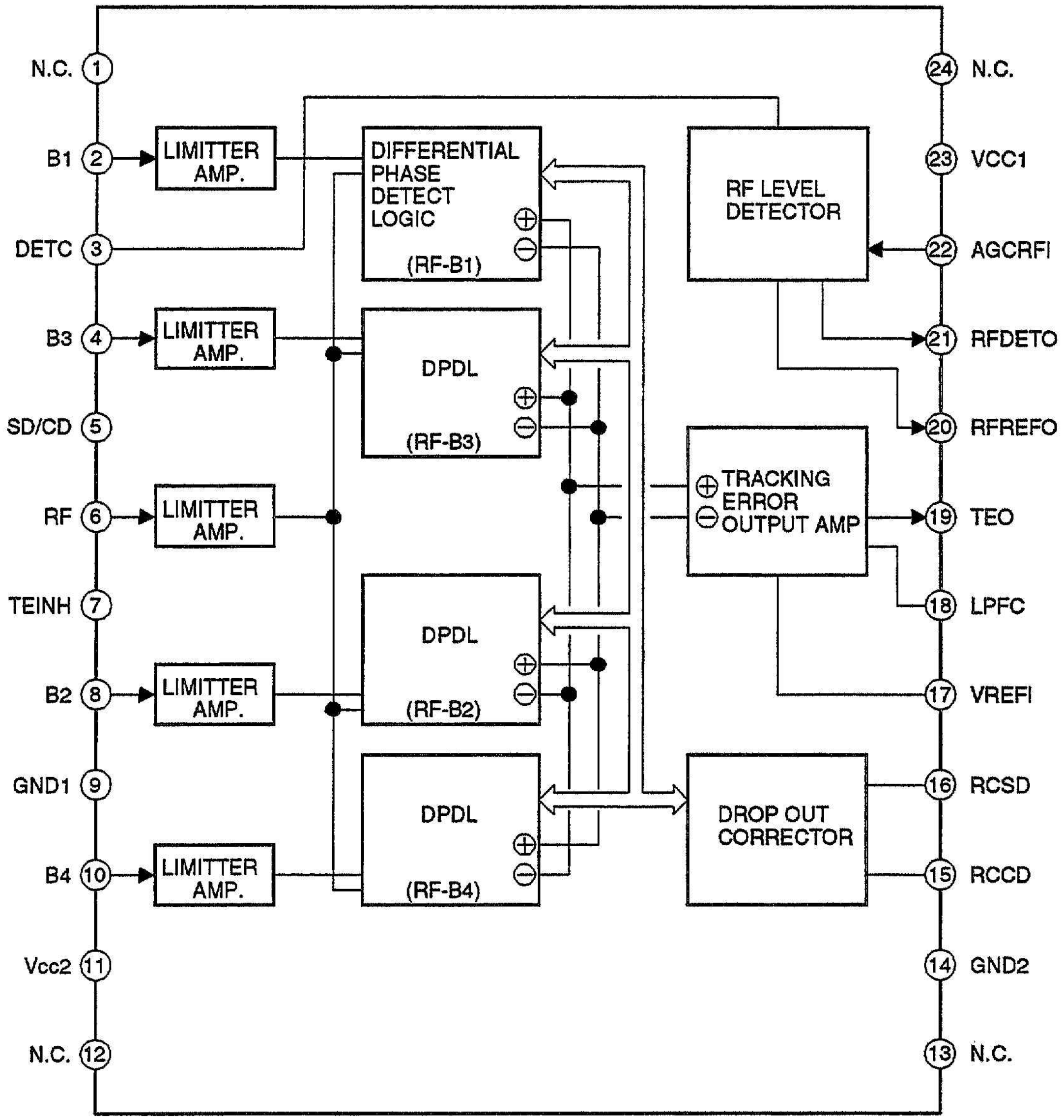
No.	Name	I/O	Function
63	GND	-	Grounding terminal. Connect to GND (GND of the analog system).
64	VDD	-	Power terminal. Connect to +3.3 V (VDD of the analog system).
65	TESTEN0	-	Test terminal. Leave it open (terminal for IC test)
66	TESTEN1		
67	TESTEN2		
68	TESTEN3		
69	TESTCCE		
70	REQIN	I	Inputs request signal of the DMA source if OR logic is required for transfer enable request of the external IC (DMA source) and DMA request of this IC.
71	GND	-	Grounding terminal. Connect to GND (GND of the analog system).
72	GND	-	Grounding terminal. Connect to GND (GND of the analog system).
73	VDD	-	Power terminal. Connect to +3.3 V (VDD of the analog system).
74	CPUREQB	O	DMA request signal. Connect to DMA request input of CPU IC. The DMA request is roughly classified into the request for subvideo data and the request for GUI data. Either requests are executed by the instruction of the DMA start command to the corresponding register. The "L" level of the DMA request signal indicates that the request is being made. The system automatically sets to "H" if built-in FIFO becomes full or transmission of the required amount of data is completed. THe DMA request signal can use OR logic with REQIN input.
75	CPUACKB	I	Connect acknowledge output from CPU IC during DMA request. The system retrieves data input to CPUD7-0 into biult-in FIFO at the leading edge of this signal.
76	CPUIRQB	O	Interrupt signal to CPU IC. Connect to interrupt input of CPU IC. The system generates "L" signal every time the V blanking of video output is encountered.
77	RDB	I	Read signal when the CPU IC wants to read the content of the read register. The content of the register of the address being accessed will be output to CPU7-0 when the system is set to "L".
78	WRB	I	Write signal when the CPU IC wants to rewrite the content of the read register. Connects write output of CPU IC. The content of the register of the address being accessed will be rewritten to the data being input to CPU7-0 when the system is set to "L".
79	CSB	I	Selection signal when the CPU IC wants to read or write the register of this IC. Connects CS output of CPU IC.
80	CPUA5	I	Address signal when the CPU IC wants to read or write the register of this IC. Connects address output of CPU IC. CPUA0 is LSB, and CPUA5 is MSB.
81	CPUA4		
82	CPUA3		
83	CPUA2		
84	CPUAI		
85	CPUAO		
86	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
87	CPUD7	IO	Data signal when the CPU IC wants to read or write the register of this IC, and transmission data signal during DMA transmission. Connects to data bus under the CPU IC. CPUD0 is LSB, and CPUD7 is MSB.
88	CPUD6		
89	CPUD5		
90	CPUD4		
91	CPUD3		
92	CPUD2		
93	CPUD1		
94	CPUD0		
95	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
96	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
97	VD7	I	Connects video data signal output of 8-bit multiplex mode of the MPEG2 decoder IC. VD0 is LSB, and VD7 is MSB.
98	VD6		
99	VD5		
100	VD4		
101	VD3		
102	VD2		
103	VD1		
104	VD0		
105	DSCKES	I	Signal to select whether retrieve video data signal input from VD7-0 at the leading edge or trailing edge of the internal 27 MHz clock. The system selects the leading edge at "L" or open, and selects the trailing edge at "H".
106	VHS	I	Connects H sync output from the MPEG2 decoder. Must be synchronized with VD7-0 (negative logic). Synchronizes built-in SSG, and outputs the result of comparison of H phases from PD.
107	VVS	I	Connects V sync output from the MPEG2 decoder. Must be synchronized with VD7-0 (negative logic). Synchronizes built-in SSG.
108	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
109	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
110	GND	-	Grounding terminal. Connect to GND (GND of the logic system).

No.	Name	I/O	Function
111	RSTB	I	Reset input for IC as a whole. The built-in register, circuitry, etc. will be initialized when the system is set to "L".
112	PORT2	O	Outputs the content of the built-in register of the same name.
113	PORT1		
114	PORT0		
115	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
116	SPD3	IO	Data input/output of DRAM for subvideo. Connect to data input/output of 256 kü~4 bits DRAM.
117	SPD2		
118	SPD1		
119	SPD0		
120	SPWEB	O	/WE output to DRAM for subvideo. Connect to the /WE terminal of 256 k54 bits DRAM.
121	SPRASB	O	/RAS output to DRAM for subvideo. Connect to the /RAS terminal of 256 k54 bits DRAM.
122	SPCASB	O	/CAS output to DRAM for subvideo. Connect to the /CAS terminal of 256 k54 bits DRAM.
123	SPOEB	O	/OE output to DRAM for subvideo. Connect to the /OE terminal of 256 k54 bits DRAM.
124	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
125	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
126	SPA8	O	Address output of DRAM for subvideo. Connect to address output of 256 k54 bits DRAM. SPA0 is LSB, and SPA8 is MSB.
127	SPA7		
128	SPA6		
129	SPA5		
130	SPA4		
131	SPA3		
132	SPA2		
133	SPA1		
134	SPA0		
135	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
136	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
137	CK27M0	O	27 MHz clock output from built-in X'tal OSC. The terminal is buffered, and can drive external circuit.
138	CK27MI	I	27 MHz system clock input during external input mode of this IC. Inputs rectangular wave of 27 MHz.
139	VDD	-	Power terminal. Connect to +3.3 V (VDD of the logic system).
140	DUMMY	O	Dummy output of built-in X'tal OSC. Normally leave it open.
141	XTALI	I	Input of built-in X'tal OSC. Use the terminal by connecting the X'tal to external circuit.
142	XTALO	O	Output of built-in X'tal OSC. Use the terminal by connecting the X'tal to external. Cannot supply the clock to external circuit from this terminal. Should use CK27MO. For the system clock of this IC, this signal is internally buffered during internal input.
143	GND	-	Grounding terminal. Connect to GND (GND of the logic system).
144	GND	-	Grounding terminal. Connect to GND (GND of the logic system).

■ PA0065AM (DVD MAIN ASSY : IC601)

● TIME-DIFFERENCE IC

● Block Diagram


N.C. ①
B1 ②
DETC ③
B3 ④
SD/CD ⑤
RF ⑥
TEINH ⑦
B2 ⑧
GND1 ⑨
B4 ⑩
Vcc2 ⑪
N.C. ⑫
㉔ N.C.
㉓ VCC1
㉒ AGCRFI
㉑ RFDETO
⑳ RFREFO
⑲ TEO
⑱ LPFC
⑰ VREFI
⑯ RCSD
⑮ RCCD
⑭ GND2
⑬ N.C.
LIMITTER AMP.
LIMITTER AMP.
LIMITTER AMP.
LIMITTER AMP.
LIMITTER AMP.
DIFFERENTIAL PHASE DETECT LOGIC
(RF-B1)
DPDL
(RF-B3)
DPDL
(RF-B2)
DPDL
(RF-B4)
⊕
⊖
RF LEVEL DETECTOR
⊕ ⊖ TRACKING ERROR OUTPUT AMP
DROP OUT CORRECTOR

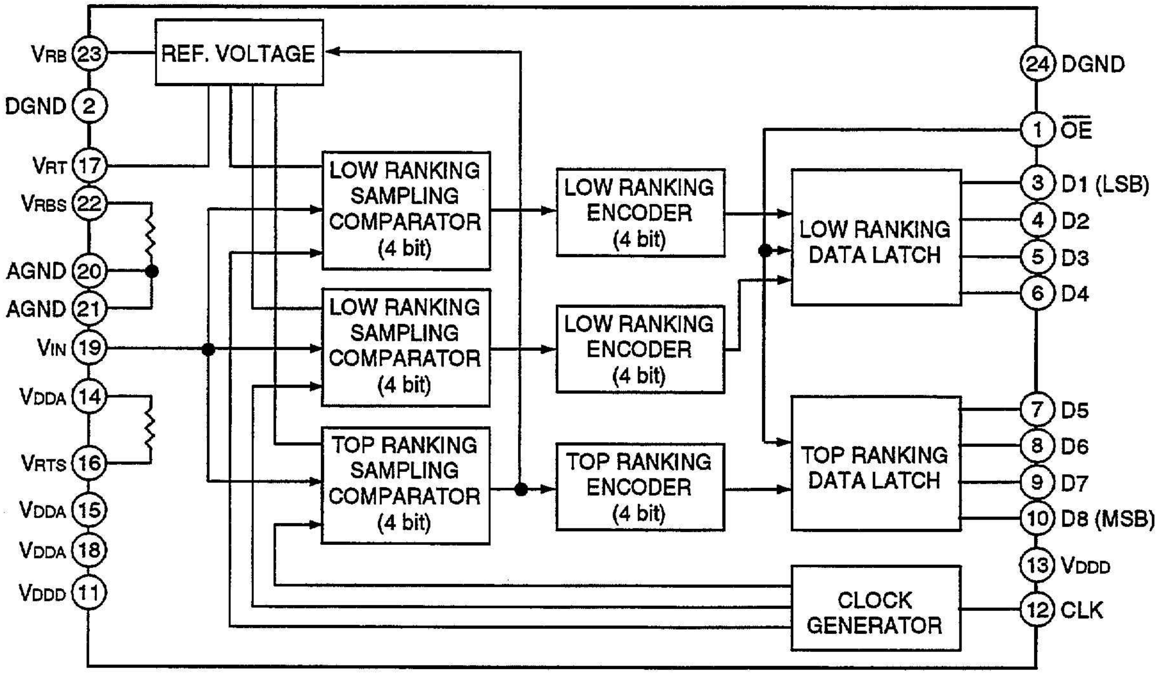
● Pin Function

No.	Pin Name	Pin Function	No.	Pin Name	Pin Function
1	NC	Non connection	13	NC	Non connection
2	B1	B1 signal input	14	GND2	Ground
3	DETC	Connect a capacitor for RF level detection	15	RCCD	Time constant for limit the pulse width of CD mode
4	B3	B3 signal input	16	RCDVD	Time constant for limit the pulse width of DVD mode
5	DVD/CD	DVD/CD mode switching signal input H : DVD mode, L : CD mode	17	VREFI	Reference voltage input
6	RF	RF signal input	18	LPFC	Low pass filter for TE output
7	TEINH	TE output prohibition signal input	19	TEO	TE output
8	B2	B2 signal input	20	RFREFO	Reference voltage output for RF level detection
9	GND1	Ground	21	RFDETO	RF level detecting output
10	B4	B4 signal input	22	AGCRFI	AGCRF signal input
11	VCC2	5V power supply	23	VCC1	5V power supply
12	NC	Non connection	24	NC	Non connection

■ TLC5540INS (DVD MAIN ASSY : IC731)

- **A/D CONVERTER**

● Block Diagram


VRB 23
DGND 2
VRT 17
VRBS 22
AGND 20
AGND 21
VIN 19
VDDA 14
VRTS 16
VDDA 15
VDDA 18
VDDD 11
REF. VOLTAGE
LOW RANKING SAMPLING COMPARATOR (4 bit)
LOW RANKING SAMPLING COMPARATOR (4 bit)
TOP RANKING SAMPLING COMPARATOR (4 bit)
LOW RANKING ENCODER (4 bit)
LOW RANKING ENCODER (4 bit)
TOP RANKING ENCODER (4 bit)
LOW RANKING DATA LATCH
TOP RANKING DATA LATCH
CLOCK GENERATOR
24 DGND
1 $\overline{\text{OE}}$
3 D1 (LSB)
4 D2
5 D3
6 D4
7 D5
8 D6
9 D7
10 D8 (MSB)
13 VDDD
12 CLK

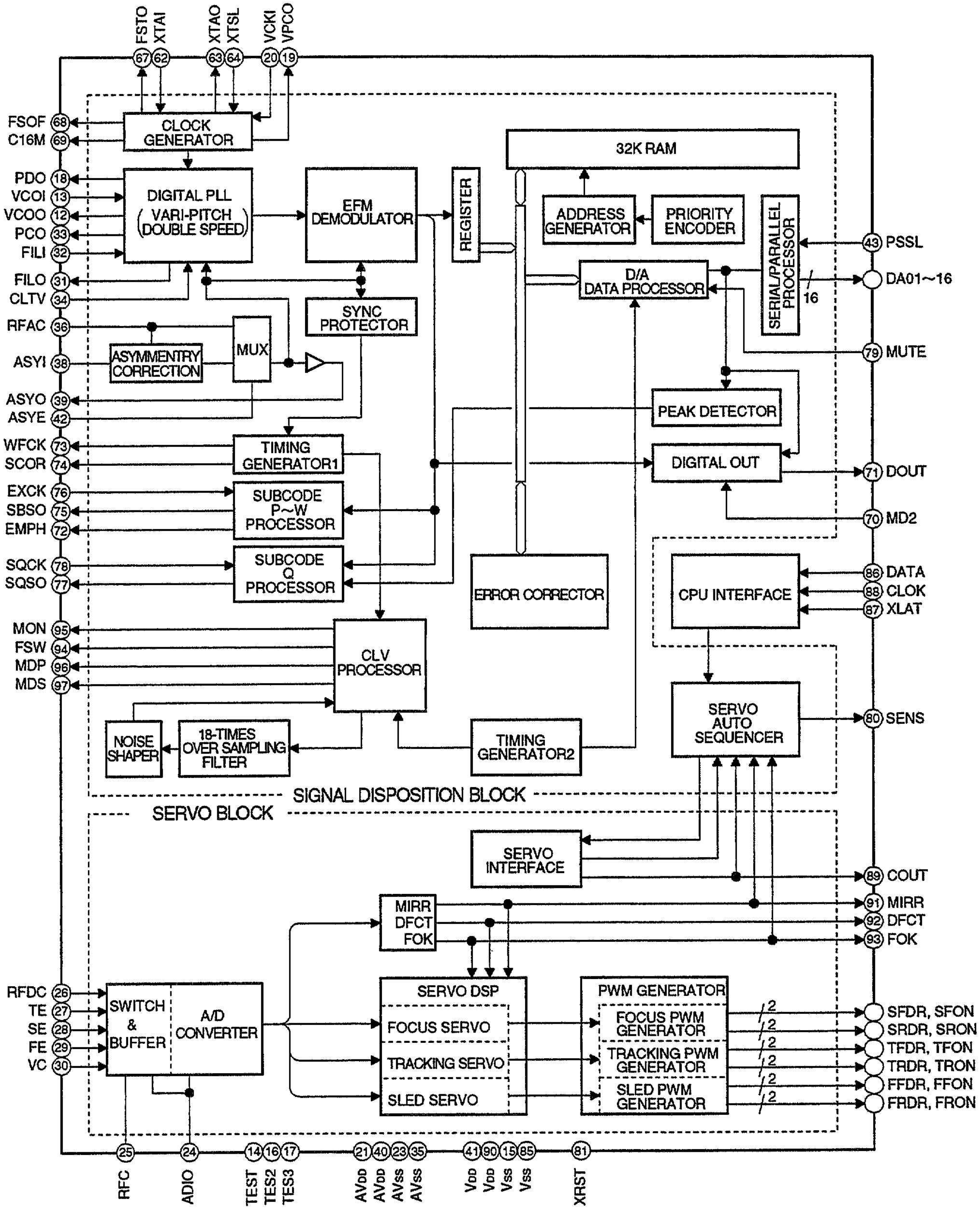
● Pin Function

No.	Pin Name	I/O	Pin Function
1	$\overline{\text{OE}}$	I	Output enable OE="L" level : Data enable OE="H" level : Output high impedance
2, 24	DGND	—	Ground for Digital system
3-10	D1-D8	O	Digital output D1: LSB, D8 : MSB
11, 13	VDDD	—	Power supply for Digital system
12	CLK	I	Clock input
16	VRTS	—	Reference voltage output (upper) Short-circuit to VRT in the internal reference voltage used. Generates a 2.63V.
17	VRT	I	Reference voltage output (upper)
23	VRB	I	Reference voltage output (lower)
14, 15, 18	VDDA	—	Power supply for Analog system
19	VIN	I	Analog input
20, 21	AGND	—	Ground for Analog system
22	VRBS	—	Reference voltage output (upper) Short-circuit to VRT in the internal reference voltage used. Generates a 0.61V.

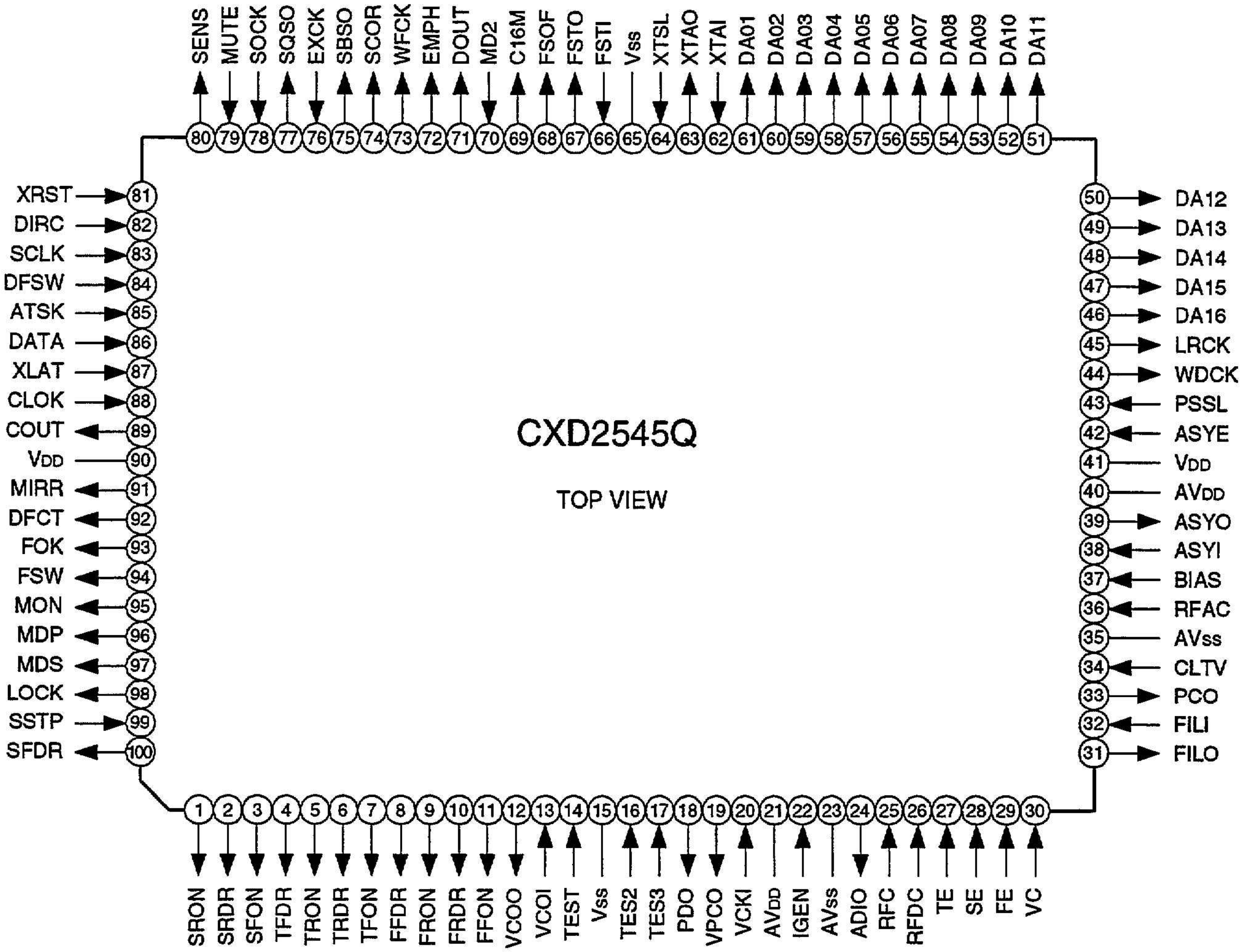
■ CXD2545Q (DVD MAIN ASSY : IC801)

● DIGITAL SERVO IC

● Block Diagram


FSTO 67
XTAI 62
XTAO 63
XTSL 64
VCKI 20
VPCO 19
FSOF 68
C16M 69
PDO 18
VCOI 13
VCOO 12
PCO 33
FILI 32
FILO 31
CLTV 34
RFAC 36
ASYI 38
ASYO 39
ASYE 42
WFCK 73
SCOR 74
EXCK 76
SBSO 75
EMPH 72
SQCK 78
SQSO 77
MON 95
FSW 94
MDP 96
MDS 97
RFDC 26
TE 27
SE 28
FE 29
VC 30
CLOCK GENERATOR
DIGITAL PLL (VARI-PITCH DOUBLE SPEED)
EFM DEMODULATOR
REGISTER
32K RAM
ADDRESS GENERATOR
PRIORITY ENCODER
SERIAL/PARALLEL PROCESSOR
D/A DATA PROCESSOR
16
SYNC PROTECTOR
ASYMMENTRY CORRECTION
MUX
PEAK DETECTOR
TIMING GENERATOR1
DIGITAL OUT
SUBCODE P~W PROCESSOR
SUBCODE Q PROCESSOR
ERROR CORRECTOR
CPU INTERFACE
CLV PROCESSOR
NOISE SHAPER
18-TIMES OVER SAMPLING FILTER
TIMING GENERATOR2
SERVO AUTO SEQUENCER
SIGNAL DISPOSITION BLOCK
SERVO BLOCK
SERVO INTERFACE
MIRR
DFCT
FOK
SWITCH & BUFFER
A/D CONVERTER
SERVO DSP
FOCUS SERVO
TRACKING SERVO
SLED SERVO
PWM GENERATOR
FOCUS PWM GENERATOR
TRACKING PWM GENERATOR
SLED PWM GENERATOR
2
2
2
2
2
2
43 PSSL
DA01~16
79 MUTE
71 DOUT
70 MD2
86 DATA
88 CLOK
87 XLAT
80 SENS
89 COUT
91 MIRR
92 DFCT
93 FOK
SFDR, SFON
SRDR, SRON
TFDR, TFON
TRDR, TRON
FFDR, FFON
FRDR, FRON
25 RFC
24 ADIO
14 TEST
16 TES2
17 TES3
21 AVDD
40 AVDD
23 AVSS
35 AVSS
41 VDD
90 VDD
15 VSS
85 VSS
81 XRST

● Pin Assignment (Top View)


SENS 80
MUTE 79
SOCK 78
SQSO 77
EXCK 76
SBSO 75
SCOR 74
WFCK 73
EMPH 72
DOUT 71
MD2 70
C16M 69
FSOF 68
FSTO 67
FSTI 66
Vss 65
XTSL 64
XTAO 63
XTAI 62
DA01 61
DA02 60
DA03 59
DA04 58
DA05 57
DA06 56
DA07 55
DA08 54
DA09 53
DA10 52
DA11 51
XRST 81
DIRC 82
SCLK 83
DFSW 84
ATSK 85
DATA 86
XLAT 87
CLOK 88
COUT 89
VDD 90
MIRR 91
DFCT 92
FOK 93
FSW 94
MON 95
MDP 96
MDS 97
LOCK 98
SSTP 99
SFDR 100
CXD2545Q
TOP VIEW
50 DA12
49 DA13
48 DA14
47 DA15
46 DA16
45 LRCK
44 WDCK
43 PSSL
42 ASYE
41 VDD
40 AVDD
39 ASYO
38 ASYI
37 BIAS
36 RFAC
35 AVss
34 CLTV
33 PCO
32 FILI
31 FILO
1 SRON
2 SRDR
3 SFON
4 TFDR
5 TRON
6 TRDR
7 TFON
8 FFDR
9 FRON
10 FRDR
11 FFON
12 VCOO
13 VCOI
14 TEST
15 Vss
16 TES2
17 TES3
18 PDO
19 VPCO
20 VCKI
21 AVDD
22 IGEN
23 AVss
24 ADIO
25 RFC
26 RFDC
27 TE
28 SE
29 FE
30 VC

● Pin Function

No.	Name	I/O	Function
1	SRON	O	Thread drive output.
2	SRDR	O	
3	SFON	O	
4	TFDR	O	Tracking drive output.
5	TRON	O	
6	TRDR	O	
7	TFON	O	
8	FFDR	O	Focus drive output.
9	FRON	O	
10	FRDR	O	
11	FFON	O	
12	VCOO	O	Oscillation circuit output for analog EFM PLL.
13	VCOI	I	Oscillation circuit input for analog EFM PLL. f_{LOCK} = 8.6436MHz.
14	TEST	I	TEST terminal. Normally GND.
15	Vss	-	Digital GND.
16	TES2	I	TEST terminal. Normally GND.
17	TES3	I	TEST terminal. Normally GND.
18	PDO	O	Charge-pump output for analog EFM PLL.
19	VPCO	O	PLL charge-pump output for variable pitch.
20	VCKI	I	Clock input from external VCO for variable pitch.fcenter = 16.9344MHz.

No.	Name	I/O	Function
21	AVDD	-	Analog power supply.
22	IGEN	I	Terminal to connect the current source reference resistor of the operational amplifier for digital servo.
23	AVss	-	Analog GND.
24	ADIO	O	A/D converter input monitor terminal.
25	RFC	I	Terminal to connect the low-pass filter capacitor for RFDC input.
26	RFDC	I	RF signal input. Input range: 2.15 to 5.0 V (when VDD = AVDD = 5.0 V).
27	TE	I	Tracking error signal input. Input range: 2.5~1.0 V (when VDD = AVDD = 5.0 V).
28	SE	I	Thread-error signal input. Input range: 2.5~1.0 V (when VDD = AVDD = 5.0 V).
29	FE	I	Focus-error signal input. Input range: 2.5~1.0 V (when VDD = AVDD = 5.0 V).
30	VC	I	Mid-point voltage input terminal.
31	FILO	O	Filter output for master PLL.
32	FILI	O	Filter input for master PLL.
33	PCO	O	Charge-pump output for master PLL.
34	CLTV	I	VCO control voltage input for master.
35	AVss	-	Analog GND.
36	RFAC	I	EFM signal input.
37	BIAS	I	Asymmetrical circuit constant current input.
38	ASYI	I	Asymmetrical comparison voltage input.
39	ASYO	O	EFM full-swing output (L = Vss, H = VDD).
40	AVDD	-	Analog power supply.
41	VDD	-	Digital power supply.
42	ASYE	I	Asymmetrical circuit ON/OFF (L = OFF, H = ON).
43	PSSL	I	Audio data output mode switching input (L = serial output, H = parallel output).
44	WDCK	O	48-bit slot D/A interface. Word clock (f = 2 Fs).
45	LRCK	O	48-bit slot D/A interface. OR clock (f = Fs).
46	DA16	O	DA16 output when PSSL = 1. Serial data of 48-bit slot when PSSL = 0.
47	DA15	O	DA15 output when PSSL = 1. Bit clock of 48-bit slot when PSSL = 0.
48	DA14	O	DA14 output when PSSL = 1. Serial data of 64-bit slot when PSSL = 0.
49	DA13	O	DA13 output when PSSL = 1. Bit clock of 64-bit slot when PSSL = 0.
50	DA12	O	DA12 output when PSSL = 1. LR clock of 64-bit slot when PSSL = 0.
51	DA11	O	DA11 output when PSSL = 1. GTOP output when PSSL = 0.
52	DA10	O	DA10 output when PSSL = 1. XUGF output when PSSL = 0.
53	DA09	O	DA09 output when PSSL = 1. XPLCK output when PSSL = 0.
54	DA08	O	DA08 output when PSSL = 1. GFS output when PSSL = 0.
55	DA07	O	DA07 output when PSSL = 1. RFCK output when PSSL = 0.
56	DA06	O	DA06 output when PSSL = 1. C2PO output when PSSL = 0.
57	DA05	O	DA05 output when PSSL = 1. XRAOF output when PSSL = 0.
58	DA04	O	DA04 output when PSSL = 1. MNT3 output when PSSL = 0.
59	DA03	O	DA03~ output when PSSL = 1. MNT2 output when PSSL = 0.
60	DA02	O	DA02 output when PSSL = 1. MNT1 output when PSSL = 0.
61	DA01	O	DA01 output when PSSL = 1. MNT0 output when PSSL = 0.
62	XTAI	1	X'tal oscillation circuit input. 16.9344 MHz or 33.8688 MHz input.
63	XTAO	O	X'tal oscillation circuit output.
64	XTSL	I	X'tal selective input terminal. The system is set to L when X+tal is 16,9344 MHz, and H when 33,8688 MHz (during normal playback).
65	Vss	-	Digital GND.
66	FSTI	I	Reference clock input terminal for digital servo block.
67	FSTO	O	2/3 divided output for Terminals 62 and 63. Variable pitch does not change the output.
68	FSOF	O	1/4 divided output for Terminals 62 and 63. Variable pitch does not change the output.
69	C16M	O	16,9344 MHz output. Changes simultaneously with variable pitch (during normal playback).
70	MD2	I	Digital-Out ON/OFF control terminal (L = OFF, H = ON).
71	DOUT	O	Digital-Out output terminal.
72	EMPH	O	Emphasis mode output of the disc played back (L = no emphasis, H = emphasis).
73	WFCK	O	WFCK output.
74	SCOR	O	Subcode sync output terminal (The system sets to H when either subcode sync S0 or S1 is detected.).
75	SBSO	O	Serial output of Sub-P to Sub W.

No.	Name	I/O	Function
76	EXCK	I	Clock input for SBSO read out.
77	SQSO	O	Sub-Q 80-bit output, PCM peak data, level data 16-bit output.
78	SQCK	I	Clock input for SBSO read out.
79	MUTE	I	Mute switching terminal (H = Mute).
80	SENS	O	SENS output. Outputs to CPU.
81	XRST	I	System reset (L = reset).
82	DIRC	I	Used when skipping a single track. (Inputs VDD level when not used.)
83	SCLK	I	Clock for reading SENS serial data.
84	DFSW	I	DFCT switching terminal (H = DFCT measure circuit OFF).
85	ATSK	I	Antishock terminal.
86	DATA	I	Inputs serial data from the CPU.
87	XLAT	I	Inputs latch from the CPU.
88	CLOK	I	Inputs serial data transfer clock from the CPU.
89	COUT	O	Track counting signal output.
90	VDD	-	Digital power supply.
91	MIRR	O	Mirror signal output.
92	DFCT	O	Defect signal output.
93	FOK	O	Focus OK output.
94	FSW	O	Outputs switching the output filter of the spindle motor.
95	MON	O	ON/OFF control output for the spindle motor.
96	MDP	O	Servo control of the spindle motor.
97	MDS	O	Servo control of the spindle motor.
98	LOCK	O	Samples GFS at 460 Hz and outputs H when GFS is H. Outputs L if GFS is L eight times continuously.
99	SSTP	I	Terminal for the signal to detect the most inner circumference of the disc.
100	SFDR	O	Thread drive output.

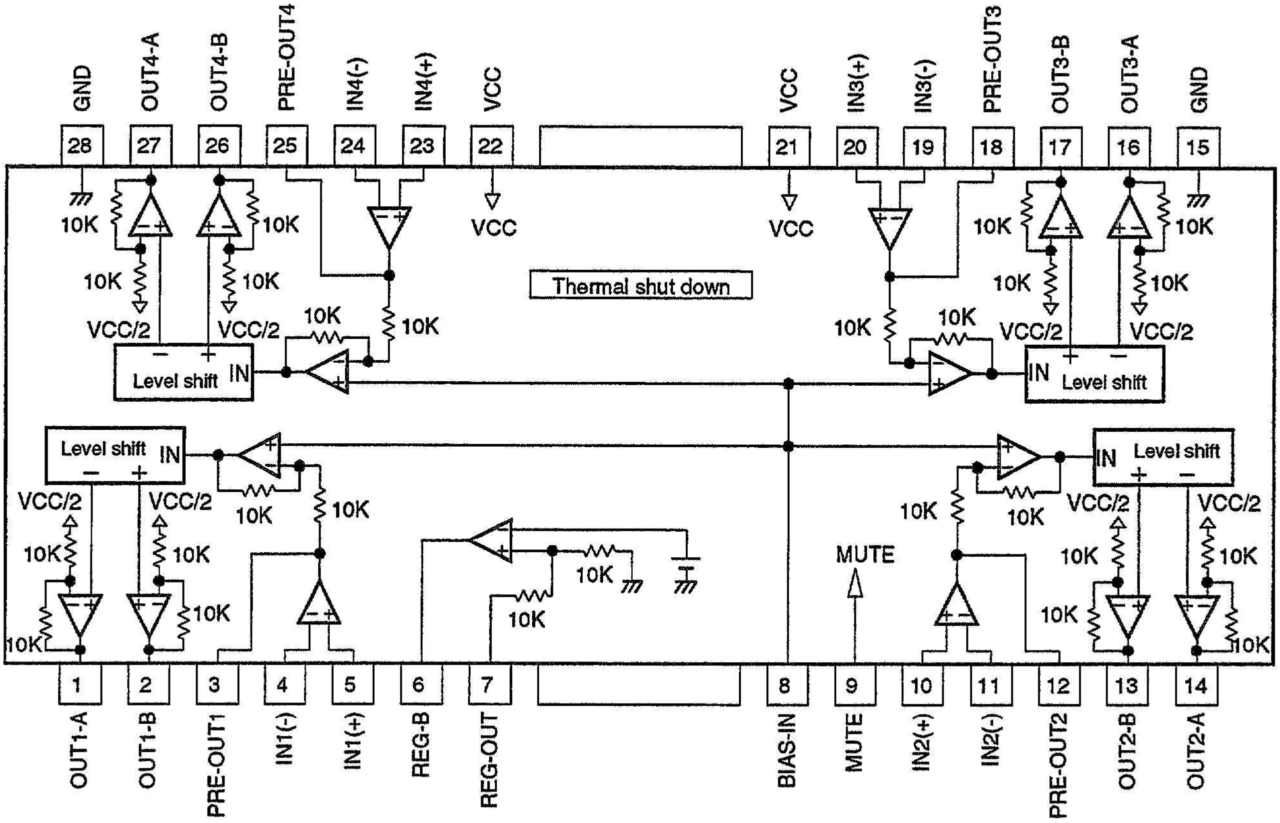
Notes:

- The 64-bit slot is 2's complementary output of LSB first. The 48-bit slot is 2's complementary output of MSB first.
- GTOP is to monitor protection of Frame sync (H: sync protective window open).
- XUGF is Frame sync obtained from EFM signal, and is negative pulse. It is signal before sync protection. "
- For XPLCK, PLL is produced so that the reverse and trailing edge of the clock of EFM PLL meet the point of change of EFM signal.
- GFS signal is set to H when Frame sync meets the interpolated protection timing.
- RFCK is obtained with X'tal precision. It is signal of cycles at 136±s.
- C2PO is signal to express error status of data.
- XRAOF is signal generated when 32K RAM exceeds the jitter margin ofü}28 frames.

■ BA6797FP (DVD MAIN ASSY : IC851)

● BTL DRIVER

● Block Diagram


GND
OUT4-A
OUT4-B
PRE-OUT4
IN4(-)
IN4(+)
VCC
VCC
IN3(+)
IN3(-)
PRE-OUT3
OUT3-B
OUT3-A
GND
28
27
26
25
24
23
22
21
20
19
18
17
16
15
10K
VCC
VCC/2
Level shift
IN
Thermal shut down
MUTE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
OUT1-A
OUT1-B
PRE-OUT1
IN1(-)
IN1(+)
REG-B
REG-OUT
BIAS-IN
MUTE
IN2(+)
IN2(-)
PRE-OUT2
OUT2-B
OUT2-A

● Pin Function

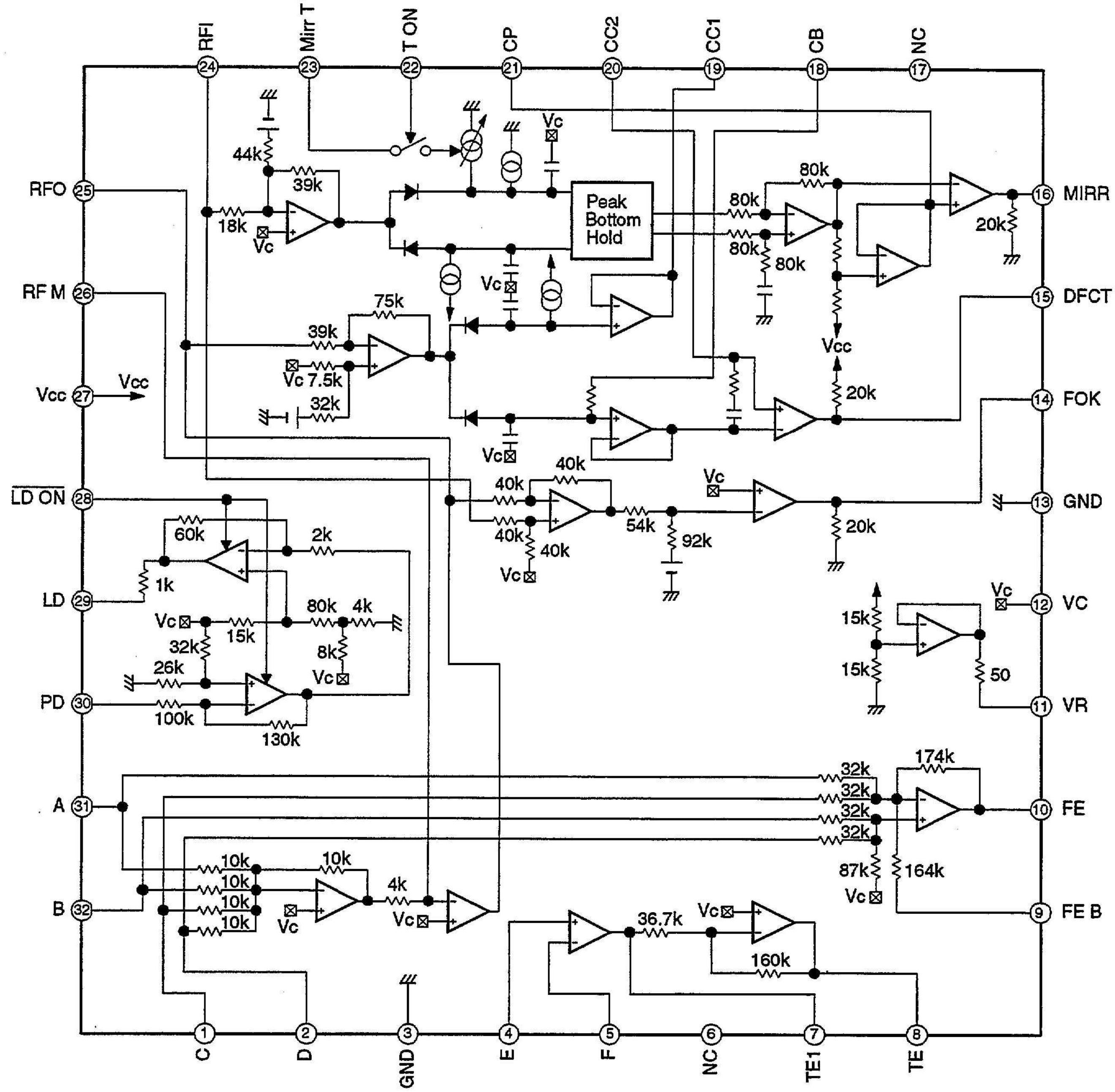
No.	Name	Function
1	OUT1-A	Driver CH1 output terminal.
2	OUT1-B	Driver CH1 output terminal.
3	PRE-OUT1	CH1 previous-stage amplifier output terminal.
4	IN1 (-)	CH1 previous-stage amplifier reverse input terminal.
5	IN1 (+)	CH1 previous-stage amplifier non-reverse input terminal.
6	REG-B	External Tr base connection terminal.
7	REG-OUT	Constant-voltage output (external Tr collector connection).
8	BIAS-IN	Bias input terminal.
9	MUTE	Mute control terminal.
10	IN2 (+)	CH2 previous-stage amplifier non-reverse input terminal.
11	IN2 (-)	CH2 previous-stage amplifier reverse input terminal.
12	PRE-OUT2	CH2 Previous-stage amplifier output terminal.
13	OUT2-B	Driver CH2 output terminal.
14	OUT2-A	Driver CH2 output terminal.

No.	Name	Function
15	GND	Substraight GND.
16	OUT3-A	Driver CH3 output terminal.
17	OUT3-B	Driver CH3 output terminal.
18	PRE-OUT3	CH3 previous-stage amplifier output terminal.
19	IN3 (-)	CH3 previous-stage amplifier reverse input terminal.
20	IN3 (+)	CH3 previous-stage amplifier non-reverse input terminal.
21	VCC	VCC
22	VCC	VCC
23	IN4 (+)	CH4 previous-stage amplifier non-reverse input terminal.
24	IN4 (-)	CH4 previous-stage amplifier reverse input terminal.
25	PRE-OUT4	CH4 previous-stage amplifier output terminal.
26	OUT4-B	Driver CH4 output terminal.
27	OUT4-A	Driver CH4 output terminal.
28	GND	Substraight GND.

■ CXA2521AQ (DVD MAIN ASSY : IC901)

● RF AMP

● Block Diagram


RFI 24
Mirr T 23
T ON 22
CP 21
CC2 20
CC1 19
CB 18
NC 17
RFO 25
RF M 26
Vcc 27
LD ON 28
LD 29
PD 30
A 31
B 32
16 MIRR
15 DFCT
14 FOK
13 GND
12 VC
11 VR
10 FE
9 FE B
1 C
2 D
3 GND
4 E
5 F
6 NC
7 TE1
8 TE
Peak Bottom Hold
44k
39k
18k
Vc
75k
39k
Vc 7.5k
32k
Vcc
80k
80k
80k
80k
20k
Vcc
20k
40k
40k
40k
40k
54k
92k
20k
60k
2k
1k
80k
4k
15k
32k
8k
26k
100k
130k
15k
15k
50
32k
32k
32k
32k
174k
87k
164k
10k
10k
10k
10k
10k
4k
36.7k
160k

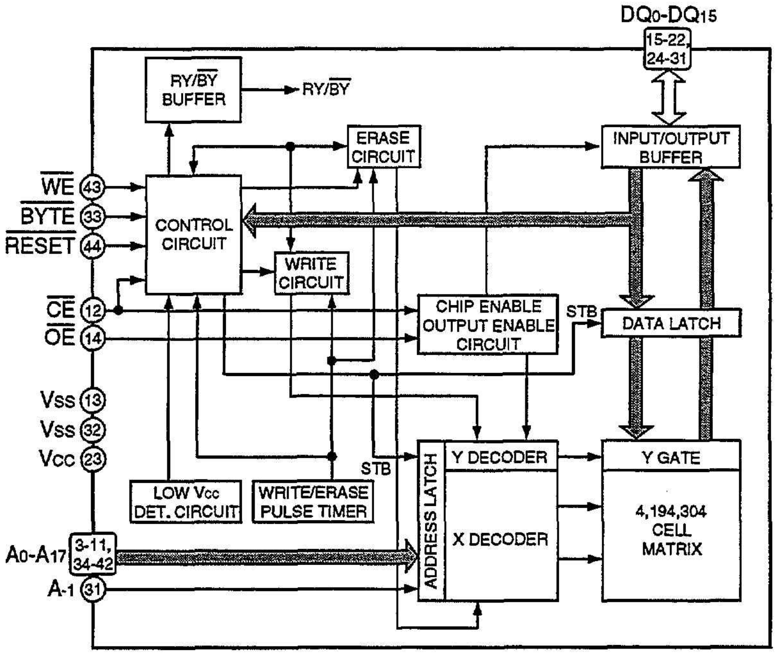
● Pin Function

No.	Name	I/O	Function
1	C	I	Input terminal for the RF summing amplifier and focus error amplifier.
2	D	I	Input terminal for the RF summing amplifier and focus error amplifier.
3	GND	-	Grounding terminal.
4	E	I	Input terminal for the tracking error amplifier.
5	F	I	Input terminal for the tracking error amplifier.
6	NC	-	Open on the circuit.
7	TE1	O	Output for the tracking error amplifier and input terminal for the tracking error drive .
8	TE	O	Output terminal for the tracking error amplifier.
9	FE B	I	Focus bias adjusting terminal for the focus amplifier.
10	FE	O	Output terminal for the focus error amplifier.
11	VR	O	DC voltage output terminal for (Vcc + GND)/2.
12	VC	I	Mid-point voltage input terminal for VC.
13	GND	-	Grounding terminal.
14	FOK	O	Output terminal for the FOK comparator.
15	DFCT	O	Output terminal for the DEFECT comparator.
16	Mirr	O	Output terminal for the mirror comparator.
17	NC	-	Open on the circuit.
18	CB	I	Connection terminal for the DEFECT Bottom Hold capacitor.
19	CC1	O	Output terminal for DEFECT Bottom Hold.
20	CC2	I	Input terminal to which combined capacity of output from DEFECT Bottom Hold is input.
21	CP	I	Connection terminal for the Mirror Hold capacitor and non-reverse input terminal for the mirror comparator.
22	T ON	I	Time constant switching terminal for Peak Hold. Connecting the terminal to Vcc enables adjustment of time constant. Connecting the terminal to GND fixes time constant.
23	Mirr	I	Time constant adjusting terminal for Peak Hold. Time constant is set to that adjusted when Terminal 22 was turned to ON.
24	RFI	I	Input terminal to which combined capacity of output from the RF summing amplifier is input.
25	RFO	O	Output terminal for RF signal. The value of resistor connected between Terminals 25 and 26 determines the low-frequency gain of the RF drive amplifier.
26	RF M	I	Input terminal on the reverse side for the RF drive amplifier.
27	Vcc	-	Vcc pin.
28	$\overline{\text{LD ON}}$	I	APC amplifier ON/OFF switching terminal. Connecting the terminal to Vcc turns the amplifier to OFF. Connecting the terminal to GNC turns the amplifier to ON.
29	LD	O	Output terminal for the APC amplifier.
30	PD	I	Input terminal for the APC amplifier.
31	A	I	Input terminal for the RF summing amplifier and focus error amplifier.
32	B	I	Input terminal for the RF summing amplifier and focus error amplifier.

■ MBM29F400TA-70PF (VYW1515) (DVD MAIN ASSY : IC1030)

- 4M bit FLASH MEMORY

● Block Diagram


DQ0-DQ15
15-22,
24-31
RY/BY BUFFER
RY/BY
ERASE CIRCUIT
INPUT/OUTPUT BUFFER
WE 43
BYTE 33
RESET 44
CONTROL CIRCUIT
WRITE CIRCUIT
CE 12
OE 14
CHIP ENABLE OUTPUT ENABLE CIRCUIT
STB
DATA LATCH
Vss 13
Vss 32
Vcc 23
STB
LOW Vcc DET. CIRCUIT
WRITE/ERASE PULSE TIMER
ADDRESS LATCH
Y DECODER
X DECODER
Y GATE
4,194,304 CELL MATRIX
A0-A17
3-11,
34-42
A-1 31

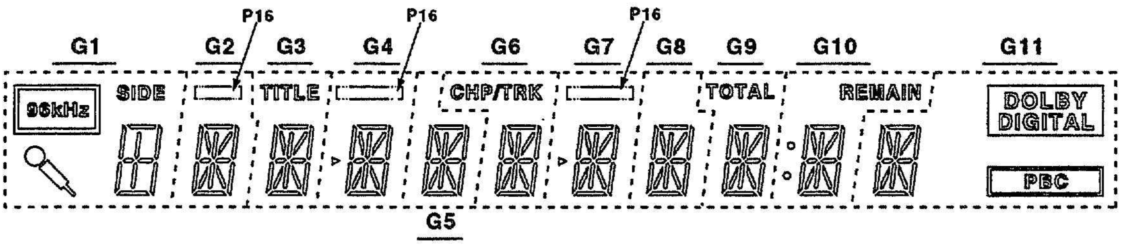
● Pin Function

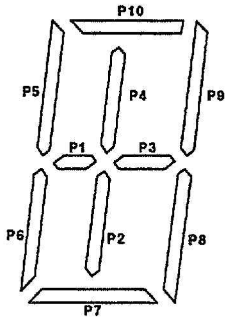
No.	Pin Name	Pin Function	No.	Pin Name	Pin Function
1	N.C.	Non connection	23	Vcc	Power supply (+5.0V ± 10% or ± 5%)
2	RY/$\overline{\text{BY}}$	Ready/Buzy output	24	DQ_4	Data input/output
3	A_{17}	Address input	25	DQ_{12}	
4	A_7		26	DQ_5	
5	A_6		27	DQ_{13}	
6	A_5		28	DQ_6	
7	A_4		29	DQ_{14}	
8	A_3		30	DQ_7	
9	A_2		31	DQ_{15}/A_{-1}	Data input / output / address input
10	A_1		32	Vss	Ground
11	A_0		33	$\overline{\text{BYTE}}$	Mode select of 8 bit and 16 bit
12	$\overline{\text{CE}}$	Chip enable	34	A_{16}	Address input
13	Vss	Ground	35	A_{15}	
14	$\overline{\text{OE}}$	Output enable	36	A_{14}	
15	DQ_0	Data input /output	37	A_{13}	
16	DQ_8		38	A_{12}	
17	DQ_1		39	A_{11}	
18	DQ_9		40	A_{10}	
19	DQ_2		41	A_9	
20	DQ_{10}		42	A_8	
21	DQ_3		43	$\overline{\text{WE}}$	Write enable
22	DQ_{11}		44	$\overline{\text{RESET}}$	Hard ware reset

7.1.2 DISPLAY

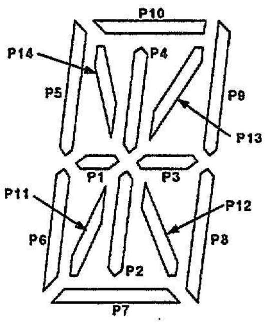
■ VAW1042 (FLPB ASSY : V101)

- **FL DISPLAY**


P16
P16
P16
G1
G2
G3
G4
G6
G7
G8
G9
G10
G11
96kHz
SIDE
TITLE
CHP/TRK
TOTAL
REMAIN
DOLBY DIGITAL
PBC
G5


P10
P5
P4
P9
P1
P3
P6
P2
P8
P7

G1


P10
P14
P4
P5
P9
P13
P1
P3
P11
P12
P6
P2
P8
P7

G1-G11

- **ANODE AND GRID ASSIGNMENT**

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11
P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1
P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2
P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3
P4	P4	P4	P4	P4	P4	P4	P4	P4	P4	P4	P4
P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	P5
P6	P6	P6	P6	P6	P6	P6	P6	P6	P6	P6	P6
P7	P7	P7	P7	P7	P7	P7	P7	P7	P7	P7	P7
P8	P8	P8	P8	P8	P8	P8	P8	P8	P8	P8	P8
P9	P9	P9	P9	P9	P9	P9	P9	P9	P9	P9	P9
P10	P10	P10	P10	P10	P10	P10	P10	P10	P10	P10	P10
P11		P11	P11	P11	P11	P11	P11	P11	P11	P11	P11
P12	🎤	P12	P12	P12	P12	P12	P12	P12	P12	P12	P12
P13	96kHz	P13	P13	P13	P13	P13	P13	P13	P13	P13	P13
P14		P14	P14	P14	P14	P14	P14	P14	P14	P14	P14
P15				▷			▷			⚬⚬	PBC
P16	SIDE	P16	TITLE	P16		CHP/TRK	P16		TOTAL	REMAIN	DOLBY DIGITAL

- **PIN ASSIGNMENT**

Pin No.	1	2	3	4	5	6	7	8	9	10	11-24	25	26	27	28	29	30	31	32
Assignment	F1	F1	NP	NL	P16	P15	P14	P13	P12	P11	NL	P10	P9	P8	P7	P6	NL	P5	P4

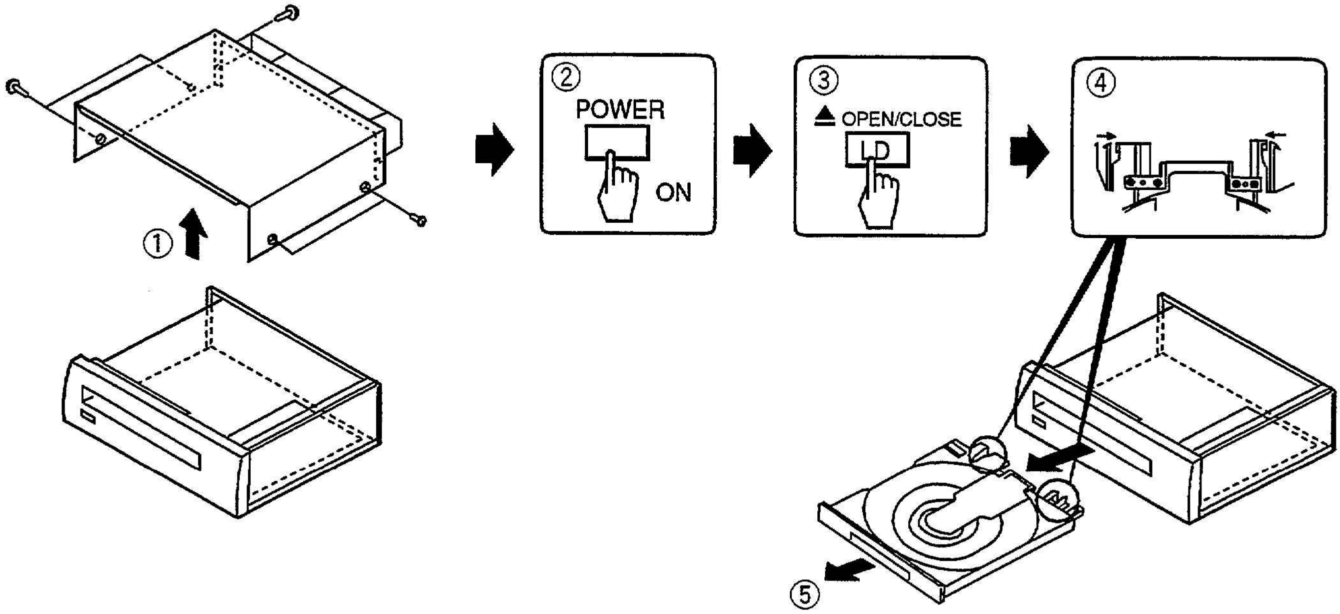
Pin No.	33	34	35	36-40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
Assignment	P3	P2	P1	NL	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1	NL	NP	F2	F2

F1, F2 : Filament G1-G11 : Grid P1-P16 : Anode NP : No Pin NL : No Lead

7.2 DISASSEMBLY/ASSEMBLY（分解/組立の手順）

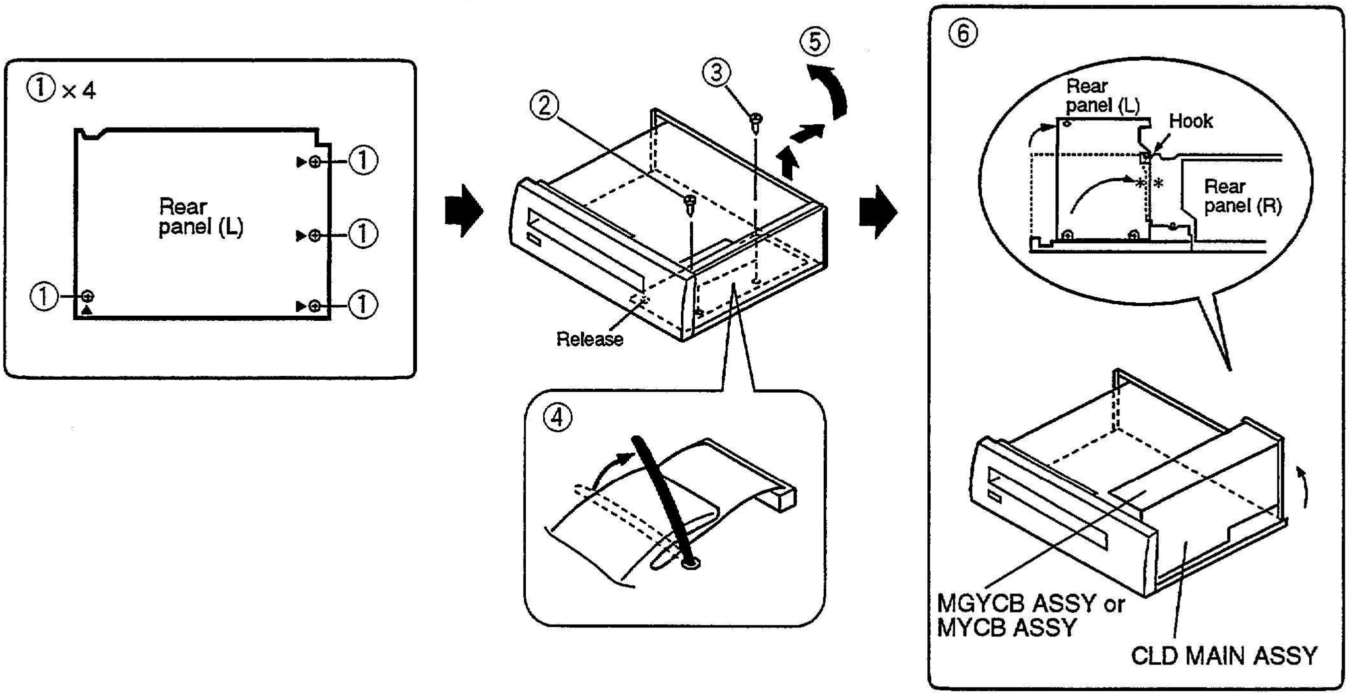
(1) DISC TRAY

- Disassembly : ①→②→③→④→⑤
- Assembly : ⑤→①


①
②
POWER
ON
③
▲ OPEN/CLOSE
LD
④
⑤

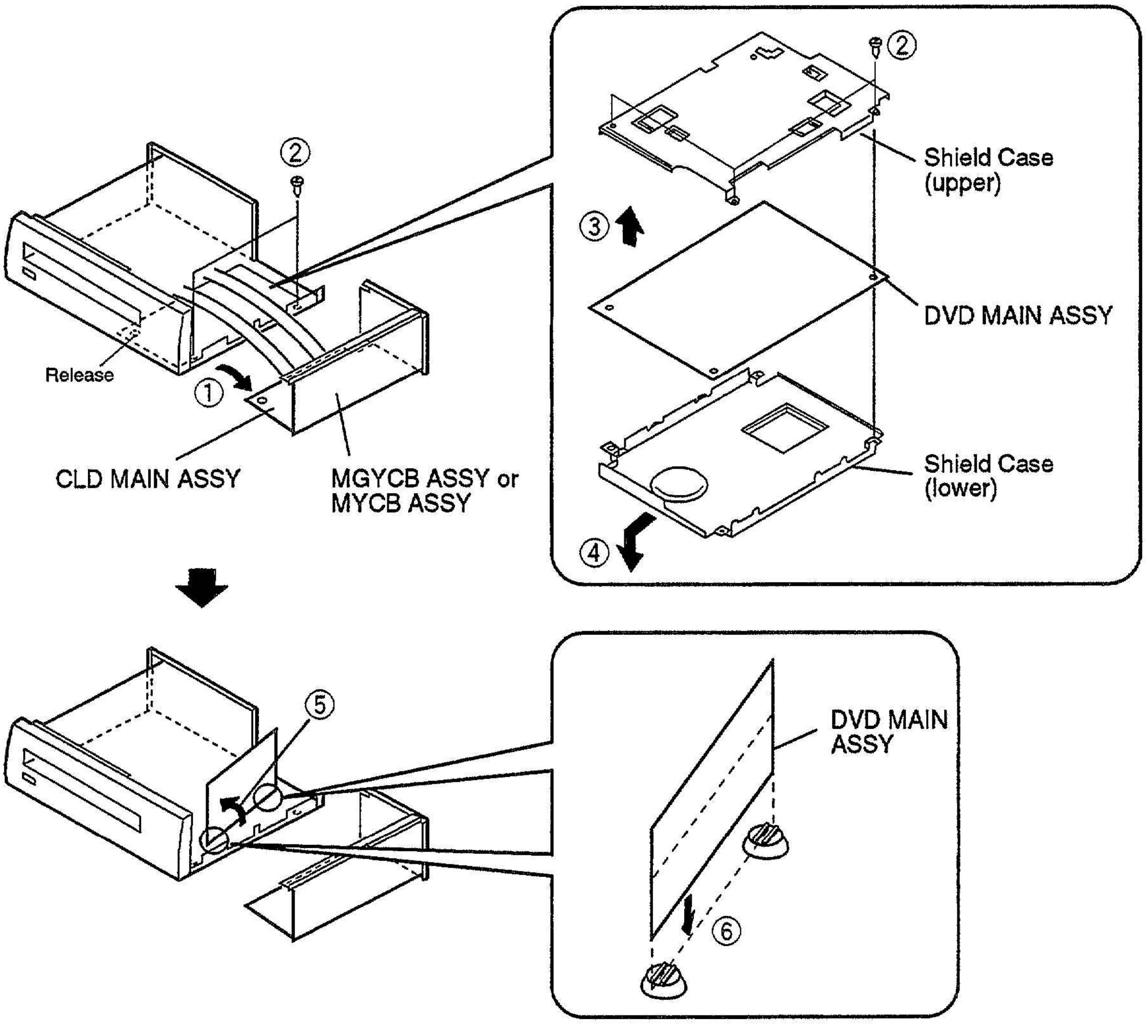
(2) CLD MAIN ASSY

- Disassembly : ①→②→③→④→⑤→⑥
- Assembly : ⑥→⑤→④→③→②→①


①×4
Rear panel (L)
①
①
①
①
②
③
⑤
Release
④
⑥
Rear panel (L)
Hook
Rear panel (R)
MGYCB ASSY or MYCB ASSY
CLD MAIN ASSY

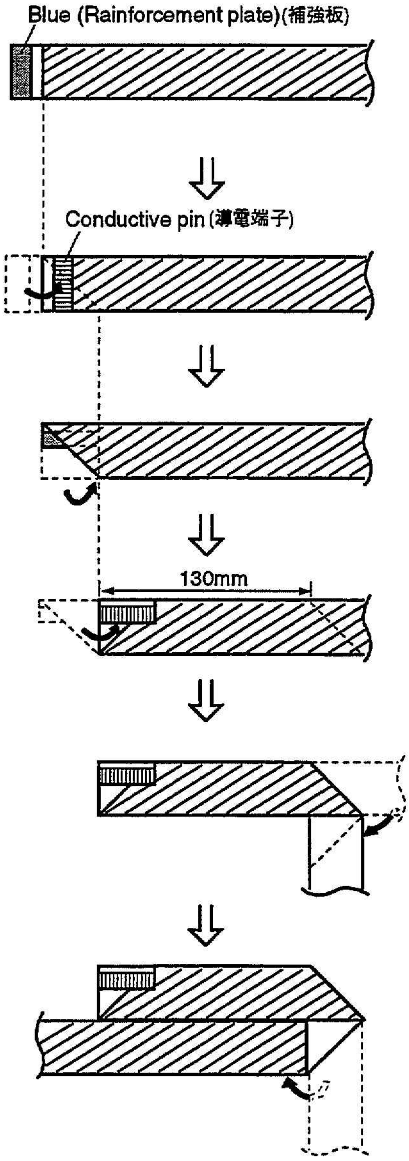
(3) DVD MAIN ASSY

- Disassembly : ①→②→③→④→⑤→⑥
- Assembly : ⑥→④→③→②→①

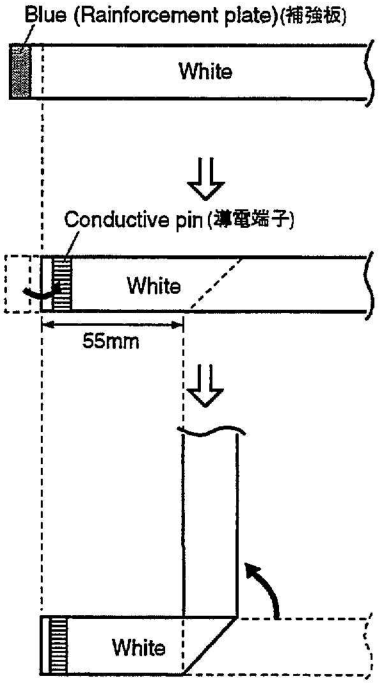

②
Release
①
CLD MAIN ASSY
MGYCB ASSY or
MYCB ASSY
②
Shield Case
(upper)
③
DVD MAIN ASSY
Shield Case
(lower)
④
⑤
DVD MAIN
ASSY
⑥

7.3 HOW TO BEND THE FLEXIBLE CABLE (フレキシブルケーブルの折り方)

(1) THE FLEXIBLE CABLE FOR CLD CARRIAGE ASSY

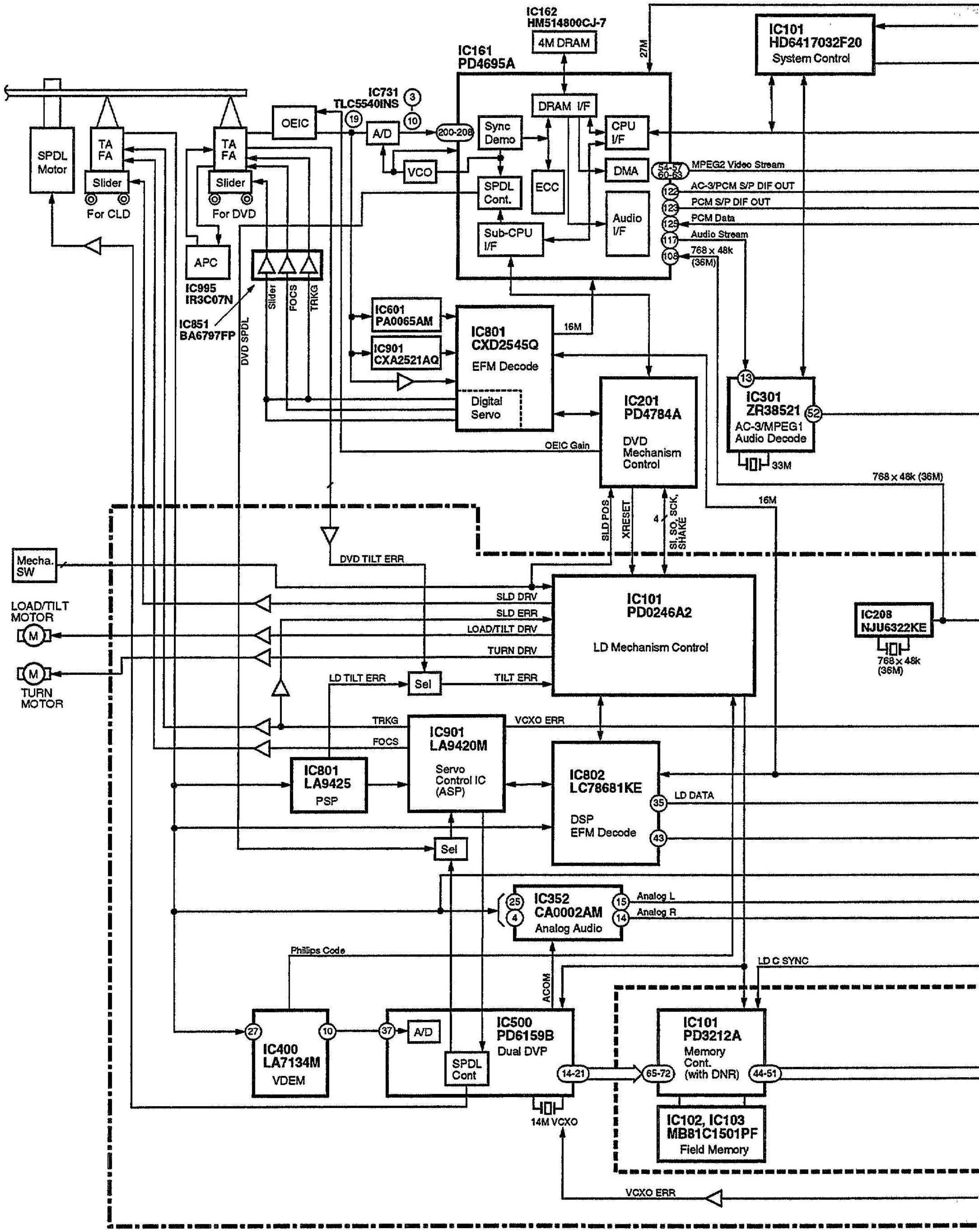

Blue (Rainforcement plate)(補強板)
Conductive pin (導電端子)
130mm

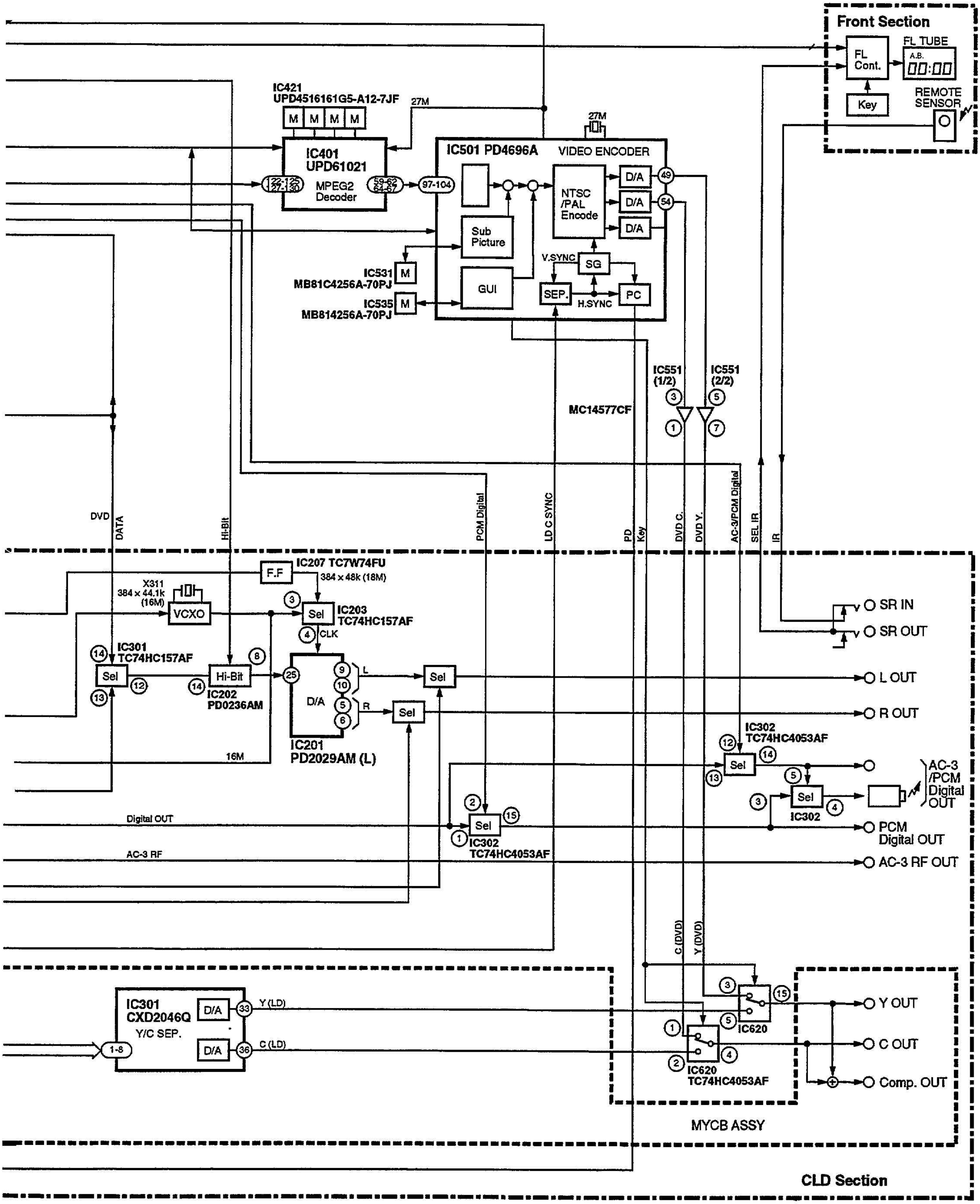
(2) THE FLEXIBLE CABLE FOR DVD CARRIAGE ASSY


Blue (Rainforcement plate)(補強板)
White
Conductive pin (導電端子)
White
55mm
White

▨: Part rating indication side (部品定格表示側)

7.4 BLOCK DIAGRAM

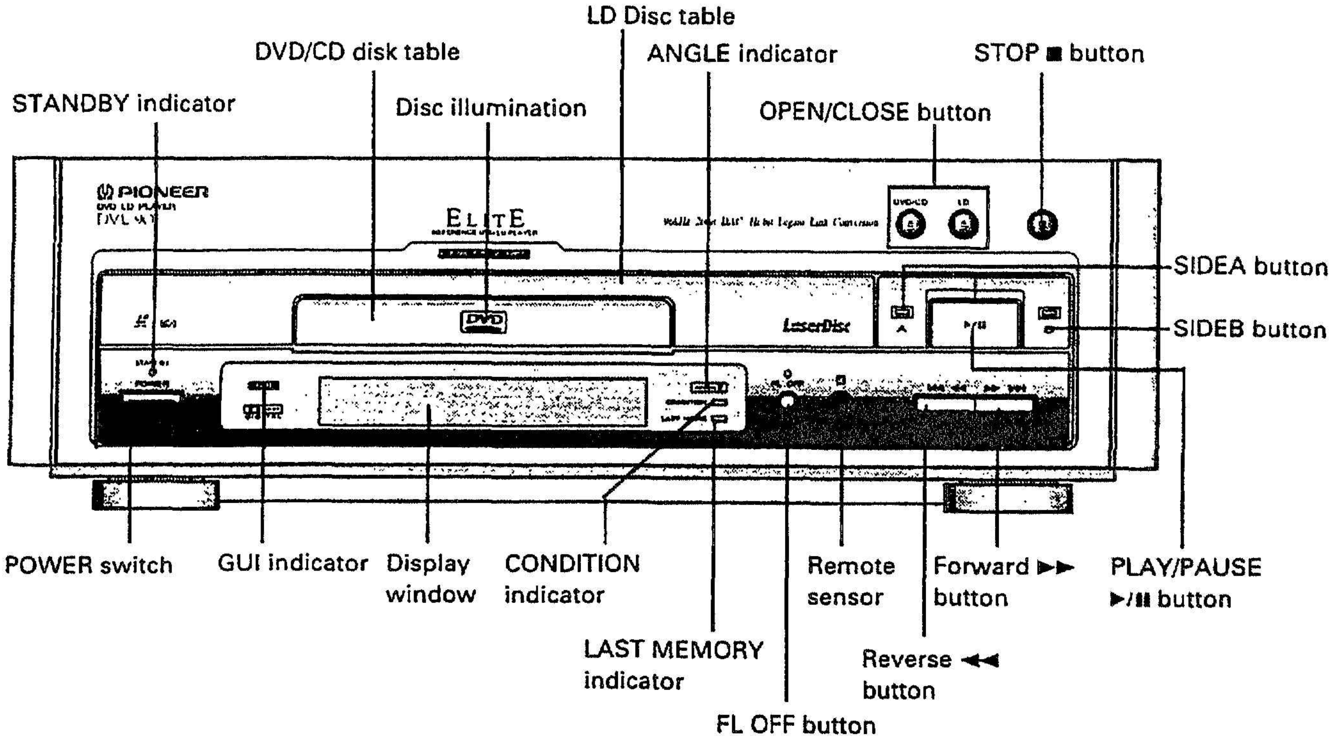

IC162
HM514800CJ-7
4M DRAM
IC161
PD4695A
27M
IC101
HD6417032F20
System Control
IC731
TLC5540INS
3
19
10
OEIC
A/D
200-208
VCO
Sync Demo
DRAM I/F
CPU I/F
DMA
ECC
SPDL Cont.
Sub-CPU I/F
Audio I/F
54-57 60-63
MPEG2 Video Stream
122
AC-3/PCM S/P DIF OUT
123
PCM S/P DIF OUT
125
PCM Data
117
Audio Stream
108
768 x 48k (36M)
SPDL Motor
TA FA
Slider
For CLD
TA FA
Slider
For DVD
APC
IC995
IR3C07N
IC851
BA6797FP
Slider
FOCS
TRKG
DVD SPDL
IC601
PA0065AM
IC901
CXA2521AQ
IC801
CXD2545Q
EFM Decode
Digital Servo
16M
IC201
PD4784A
DVD Mechanism Control
OEIC Gain
13
IC301
ZR38521
52
AC-3/MPEG1 Audio Decode
33M
768 x 48k (36M)
16M
SLD POS
XRESET
4
SI, SO, SCK, SHAKE
Mecha. SW
DVD TILT ERR
LOAD/TILT MOTOR
M
TURN MOTOR
SLD DRV
SLD ERR
LOAD/TILT DRV
TURN DRV
LD TILT ERR
Sel
TILT ERR
IC101
PD0246A2
LD Mechanism Control
IC208
NJU6322KE
768 x 48k (36M)
TRKG
FOCS
VCXO ERR
IC801
LA9425
PSP
IC901
LA9420M
Servo Control IC (ASP)
IC802
LC78681KE
DSP EFM Decode
35
LD DATA
43
Sel
25
4
IC352
CA0002AM
Analog Audio
15
Analog L
14
Analog R
Philips Code
LD C SYNC
ACOM
27
IC400
LA7134M
VDEM
10
37
A/D
IC500
PD6159B
Dual DVP
SPDL Cont
14-21
14M VCXO
65-72
IC101
PD3212A
Memory Cont. (with DNR)
44-51
IC102, IC103
MB81C1501PF
Field Memory
VCXO ERR


Front Section
FL Cont.
FL TUBE
A.B.
00:00
Key
REMOTE SENSOR
IC421
UPD4516161G5-A12-7JF
M M M M
27M
IC401
UPD61021
MPEG2 Decoder
122-125 127-130
59-62 64-67
97-104
27M
IC501 PD4696A
VIDEO ENCODER
Sub Picture
GUI
NTSC /PAL Encode
D/A
D/A
D/A
49
54
V.SYNC
SG
SEP.
H.SYNC
PC
IC531
MB81C4256A-70PJ
M
IC535
MB814256A-70PJ
M
IC551 (1/2)
IC551 (2/2)
3
5
1
7
MC14577CF
DVD
DATA
Hi-Bit
PCM Digital
LD C SYNC
PD
Key
DVD C.
DVD Y.
AC-3/PCM Digital
SEL IR
IR
IC207 TC7W74FU
F.F
384 x 48k (18M)
X311
384 x 44.1k (16M)
VCXO
3
Sel
IC203
TC74HC157AF
4 CLK
14
IC301
TC74HC157AF
Sel
12
13
Hi-Bit
14
8
IC202
PD0236AM
25
9
10
5
6
D/A
L
R
IC201
PD2029AM (L)
Sel
Sel
16M
SR IN
SR OUT
L OUT
R OUT
IC302
TC74HC4053AF
12
14
13
Sel
5
3
Sel
4
IC302
AC-3 /PCM Digital OUT
Digital OUT
2
15
Sel
1
IC302
TC74HC4053AF
PCM Digital OUT
AC-3 RF
AC-3 RF OUT
C (DVD)
Y (DVD)
IC301
CXD2046Q
Y/C SEP.
D/A
D/A
33
36
1-8
Y (LD)
C (LD)
3
15
5
IC620
1
2
4
IC620
TC74HC4053AF
Y OUT
C OUT
Comp. OUT
MYCB ASSY
CLD Section

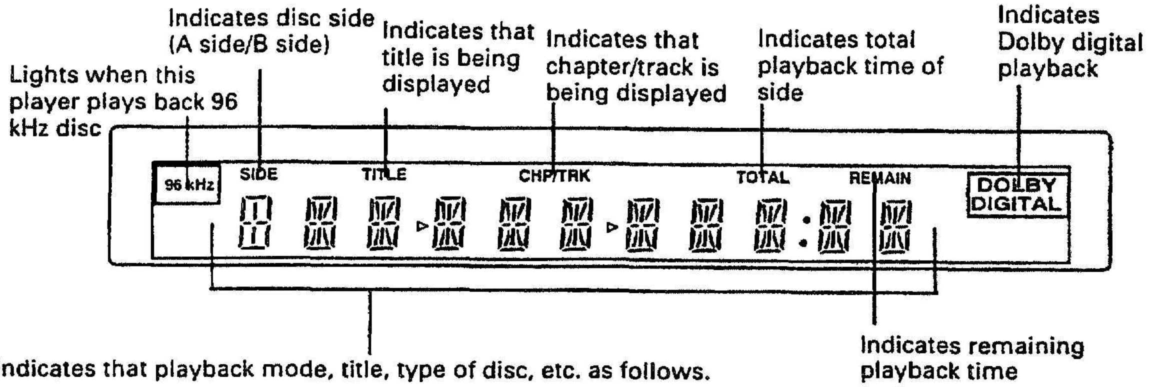
8. PANEL FACILITIES AND SPECIFICATIONS

■ PANEL FACILITIES

■ FRONT PANEL (FOR DVL-90)


LD Disc table
DVD/CD disk table
ANGLE indicator
STOP ■ button
STANDBY indicator
Disc illumination
OPEN/CLOSE button
SIDEA button
SIDEB button
PIONEER
DVD LD PLAYER
DVL-90
ELITE
LaserDisc
DVD/CD
LD
POWER switch
GUI indicator
Display window
CONDITION indicator
Remote sensor
Forward ►► button
PLAY/PAUSE ►/II button
LAST MEMORY indicator
Reverse ◄◄ button
FL OFF button

■ DISPLAY WINDOW


Indicates disc side (A side/B side)
Indicates that title is being displayed
Indicates that chapter/track is being displayed
Indicates total playback time of side
Indicates Dolby digital playback
Lights when this player plays back 96 kHz disc
96 kHz
SIDE
TITLE
CHP/TRK
TOTAL
REMAIN
DOLBY DIGITAL
Indicates remaining playback time
Indicates that playback mode, title, type of disc, etc. as follows.

LD	LaserDisc	PLAY	Playback
CD	Compact disc	STOP	Stop
CDV	CD video	PAUSE	Pause
DVD	DVD	NO DISC	No disc
OPEN	Disc table is opening or is open	-OFF-	Power is turned off
CLOSE	Disc table is closing	SIDE A(B)	SIDE A(B): Disc side

■ REAR PANEL (DVL-90)

S-video output jack
1: S jack (regular S output)
2: S2 jack (simultaneously outputs recognition signal for wide TV)
S2 function is only available during DVD playback.
By connecting to the S2 jack of your wide TV etc., TV settings etc., will be switched automatically.

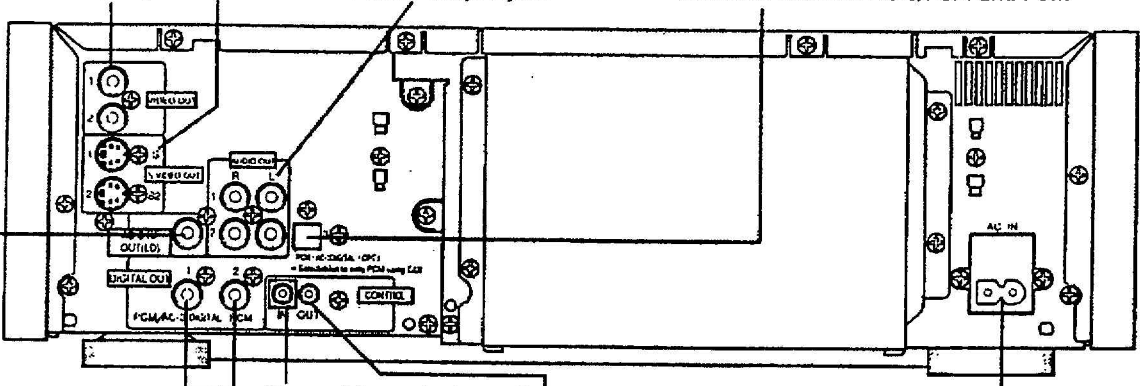
* There is both 1 and 2, allowing 2 systems to be connected at the same time. For example, 1 can be connected to the TV and 2 can be connected to an AV amplifier.

Your home amplifier	Regular AV amplifier	Coaxial	Connect to PCM jack
		Optical	Connect to optical output and select PCM jack using the menu
	AC-3 compatible amplifier	Coaxial	Connect to PCM/AC-3 jack
		Optical	Connect optical output and select PCM/AC-3 jack using the menu

Optical digital output jack
Outputs audio as optical digital output. Can be switched between AC-3/PCM and PCM

Video output jack

Audio output jack



AC-3RF output (for LD)
By connecting to the AC-3RF jack of a receiver or processor, 5.1 ch surround audio can be enjoyed.

Control input jack

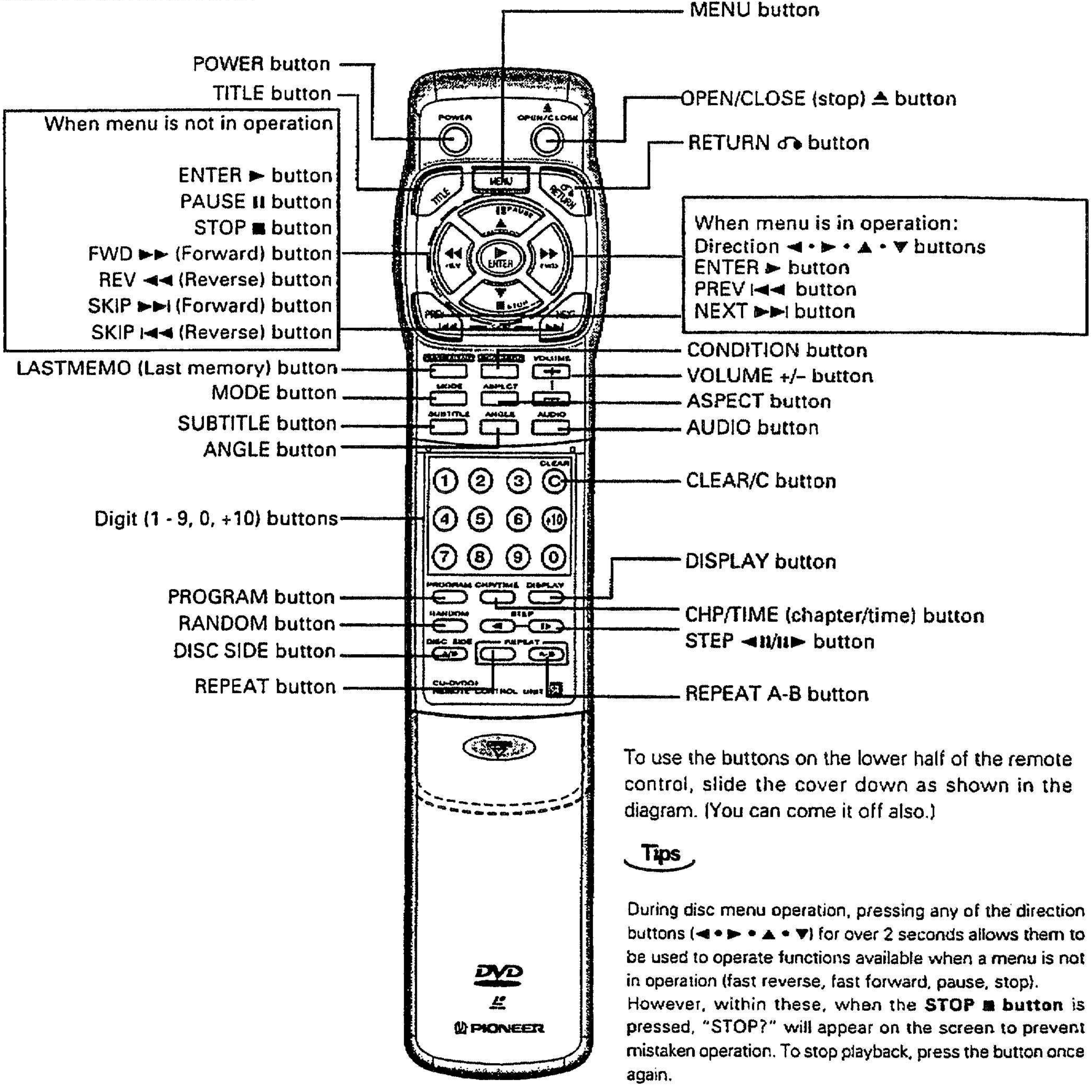
Control output jack

Power cord connection terminal

Digital output jack (coaxial)
Outputs digital audio of CD, video CD and LDs with digital sound as digital output.
Depending on the other components the player is combined with, noise may be generated from the digital output jack.
When connecting to an AC-3 compatible component, please connect to the PCM/AC-3 jack.
Other components should be connected to the PCM jack. (Refer to the list above.)

RDM	Random playback	STEREO	Stereo
PROGRAM	Program mode	MENU	Menu mode
R-TRK	Repeat mode	TITLE	Title menu
R-A	Start point of 2 point repeat playback	CHAPTER	Chapter menu
R-AB	2 point repeat playback	SUB-TITLE	Sub-title menu
R-TTL	Repeat playback of the title	SETUP	Set-up menu
R-SID	Both sides of LD repeat playback	ANGLE	Angle menu
COND.MEMORY	Condition memory	AUDIO	Audio menu
LAST MEMORY	Last memory playback	DOLBY DIGITAL 5.1CH	Dolby digital surround 5.1 ch
CINEMA 1	Cinema 1	PCM 96K	96KPCM audio
CINEMA 2	Cinema 2	PCM 48K	48KPCM audio
ANIMATION	Animation mode	MPEG AUDIO	MPEG1 or MPEG2 audio
STANDARD	Standard		

■ REMOTE CONTROL UNIT


MENU button
POWER button
TITLE button
When menu is not in operation
ENTER ► button
PAUSE ❚❚ button
STOP ■ button
FWD ►► (Forward) button
REV ◄◄ (Reverse) button
SKIP ►►| (Forward) button
SKIP |◄◄ (Reverse) button
OPEN/CLOSE (stop) ≜ button
RETURN ↶ button
When menu is in operation:
Direction ◄ • ► • ▲ • ▼ buttons
ENTER ► button
PREV |◄◄ button
NEXT ►►| button
LASTMEMO (Last memory) button
MODE button
SUBTITLE button
ANGLE button
CONDITION button
VOLUME +/– button
ASPECT button
AUDIO button
CLEAR/C button
Digit (1 - 9, 0, +10) buttons
DISPLAY button
PROGRAM button
RANDOM button
DISC SIDE button
REPEAT button
CHP/TIME (chapter/time) button
STEP ◄❚❚/❚❚► button
REPEAT A-B button
POWER
OPEN/CLOSE
MENU
TITLE
RETURN
PAUSE
ENTER
PREV
NEXT
VOLUME
MODE
ASPECT
SUBTITLE
ANGLE
AUDIO
CLEAR
1
2
3
C
4
5
6
+10
7
8
9
0
PROGRAM
CHP/TIME
DISPLAY
RANDOM
STEP
DISC SIDE
REPEAT
A/B
CU-DV001
REMOTE CONTROL UNIT
DVD
PIONEER

To use the buttons on the lower half of the remote control, slide the cover down as shown in the diagram. (You can come it off also.)

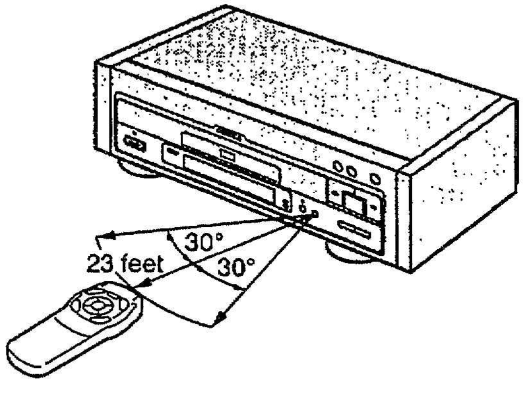
Tips

During disc menu operation, pressing any of the direction buttons (◄ • ► • ▲ • ▼) for over 2 seconds allows them to be used to operate functions available when a menu is not in operation (fast reverse, fast forward, pause, stop). However, within these, when the **STOP ■ button** is pressed, "STOP?" will appear on the screen to prevent mistaken operation. To stop playback, press the button once again.

Remote control operation

When operating the remote control, point it at the remote sensor located on the player's front panel. The remote control can be used up to 23 feet (7m) from the player and within a 30° angle each side of the sensor.

- Exposing the remote sensor to direct sunlight or strong light may cause faulty operation.
- If the CONTROL terminal on the player's rear panel is connected to another component, point the remote control at that component for operation. Operation is not possible when pointed at this player.
- When using the remote control, first press the POWER switch to turn on the player's power.


30°
23 feet
30°

■ SPECIFICATIONS

General

System	DVD system, LaserVision Disc system and Compact Disc digital audio system
Laser	Semiconductor laser: wavelength 635 nm
Power requirements:	AC 120 V, 60 Hz
Power consumption	52 W
Weight	10.0 kg (22 lb 1 oz)
Dimensions	459 (W) x 463 (D) x 143 (H) mm (18 $^1/_{16}$x18 $^1/_4$x5 $^5/_8$ in.) (Not including protruding cables, etc.)
Operating temperature	+5°C to +35°C (+36°F to +96°F)
Operating humidity	5% to 85% (no condensation)

Video Output (2 pairs)

Output level	1 Vp-p (75Ω when loaded, synchronous negative)
Jacks	RCA jacks

S-Video Output level (2 pairs)

Y (luminance) - Output level	1 Vp-p (75 Ω)
C (color) - Output level	286 mVp-p (75 Ω)
Jacks	S-VIDEO jacks

Audio Output (2 pairs)

Output level	
During digital audio output	200 mVrms (1 kHz, −20 dB)
Number of channels	2
Jacks	RCA jacks

Digital audio characteristics

Frequency response	4 Hz to 22 kHz (DVD fs: 48 kHz) 4 Hz to 22 kHz (LD, CD)
S/N ratio	115 dB (EIAJ)
Dynamic range	97 dB (EIAJ)
Total harmonic distortion	0.003 %
Wow and flutter	Limit of measurement (±0.001 % W. PEAK) or lower (EIAJ)

Other Terminals

Optical digital output (AC-3/PCM)	Optical digital jack
Coaxial digital output (AC-3/PCM)	RCA jack
Coaxial digital output (PCM)	RCA jack
AC-3RF output (for LD)	Pin jack
CONTROL IN	Minijack (3.5ø)
CONTROL OUT	Minijack (3.5ø)

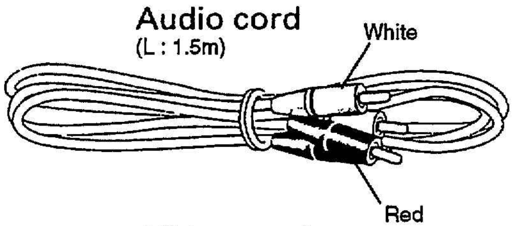
Accessories

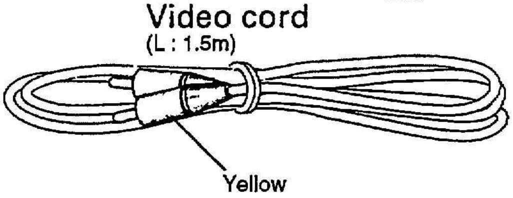
Remote control unit	1
AAA/R03 dry cell batteries	2
Audio cord	1
Video cord	1
S-video cable (DVL-90 Only)	1
Power cord	1
Operating Instructions	1
Warranty card	1

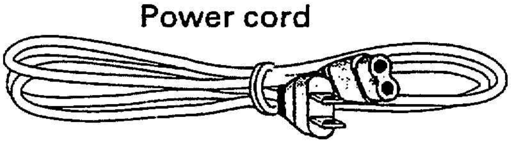
NOTE:

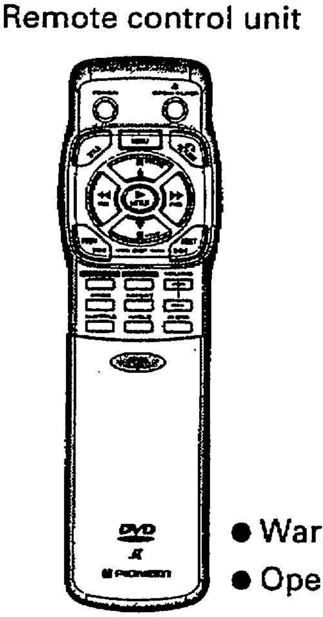
The specifications and design of this product are subject to change without notice, due to improvement.

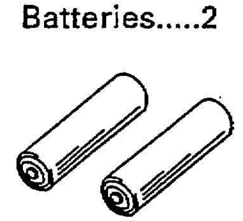
Accessories

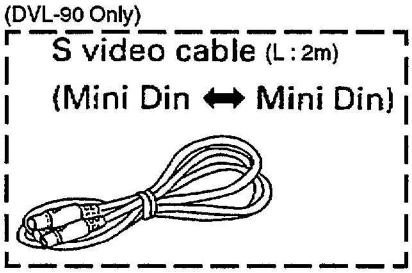












- Warranty card
- Operating Instructions (this manual)